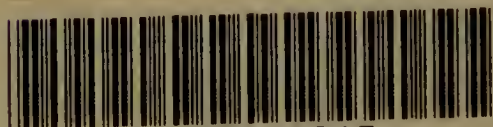


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LINGUISTIC DEVELOPMENT
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TORONTO

LINGUISTIC DEVELOPMENT AND EDUCATION

BY

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"DYNAMIC FACTORS IN EDUCATION," ETC.

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PREFACE

A number of years ago the writer of this volume, being then in charge of the model department of a training school, undertook a series of experiments relating to the teaching of language in its various aspects. At that time he searched diligently for literature treating of the psychology of linguistic development, but aside from a few incomplete studies by Preyer and others he could find little that proved of much service. It seemed to him then that it would be worth while to carefully observe a child from the beginning of expressive activity on until he acquired a mastery of his mother tongue in its vocal and auditory forms, and endeavor to determine what psychological principles were illustrated in this development. Soon the opportunity was presented to make such observations, not only upon one child, but in due course upon several children, with the result that it has been possible for the author to gather considerable material upon various phases of mental development as revealed in linguistic function. In the first part of the present volume it has been the aim to organize this material, to compare it with that gained by others working in this field, and to indicate in detail the principles of mental development which may be deduced from it, and which seem to explain it.

In the beginning of this investigation it was the intention to carry it along only until the children specially observed reached the school age, when they would begin to study the language arts. However, this point having been reached, it seemed that they had but just entered the most interesting and important stage of linguistic development, viewed from the standpoint either of psychology or of education. So it was decided to keep on with the observations and experiments until the older children particularly had acquired facility in reading, writing, spelling, and composition. The author did some of the experimental teaching himself, and the rest was done under his direct observation. At the same time the linguistic progress of a number of the companions and schoolmates of these children, who were taught by somewhat different methods, was noted; and the organization of the material gained in this way, and its interpretation from the standpoints of contemporary educational and developmental psychology, comprises most of the second part of the volume. During the past year especially the author investigated the methods of language teaching in schools at home and abroad, and he has incorporated the results of his observations, with criticisms, in the last chapters of the book.

It will be apparent at a glance that an attempt has been made to cover a large field, so that a view of linguistic development as a whole might be gained. Of necessity,

many details, in themselves of interest and importance, alike for psychology and for education, had to be omitted, and general principles only developed. It has not been easy to avoid dwelling too long upon minutiae, considering the scope of the task to be accomplished; and the author has doubtless not succeeded in all cases, though he has endeavored so to do. The material collected would have permitted of a more minute treatment of most topics, and if it seems desirable this may be undertaken later.

With a view to assisting the reader in grasping readily the more important principles discussed, a liberal use has been made of sectional and marginal headings, and summaries at the close of each chapter. It has been the constant aim also to be temperate in the citation of illustrative examples, so that one might not lose his way amid a confusion of concrete instances.

The volume has been carefully read in manuscript by Professor W. C. Bagley, and by the author's colleagues, Professor Walter F. Dearborn and Mr. Frederick W. Roe, to each of whom many thanks are due for helpful suggestions and criticisms.

M. V. O'SHEA.

MADISON, WISCONSIN,
August, 1907.

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LINGUISTIC DEVELOPMENT
AND EDUCATION

PART I

NON-REFLECTIVE PROCESSES IN LINGUISTIC DEVELOPMENT

CHAPTER I

PRE-LINGUISTIC EXPRESSION

1. Reflex Expressional Activity

It is frequently remarked by students of mental development that when the child sets out upon the journey of life, he finds himself in possession of a quite effective mode of revealing his simple needs. His earliest vocal expression, as poet and philosopher and scientist¹ have observed, is a cry, in which there is little if any modulation or intonation or "distinctive timbre." It is only a wail or "squall" which he employs in an undifferentiated way to express all of his experiences. But really the infant may be said to have but one sort of experience — discomfort — which moves him to express himself. During the first days he is ill-adjusted to his new environments,

The undifferentiated squall.

¹ Sigismund, who was one of the first systematic observers of infant development, makes this observation in his "Kind und Welt": "Sobald das Kind zur Welt geboren ist, fangt es an gellend zu schreien."

and his cry ¹ is his instinctive method of directing attention to his distress. And it is probable that at the outset the varieties of discomfort which he experiences, or the sources thereof, are not distinguished one from another; hunger is not discriminated from rough clothing, for instance, nor colic from cold.

The
beginning of
particulari-
zation.

But in due course — usually before the fourth week is completed ² — the trained ear can detect certain slight variations in the primordial squall, special needs being denoted by characteristic intonation or timbre. It is possible as early as the fifth week, speaking generally, to distinguish the hunger squall from that expressive of other kinds of discomfort, so that an observant mother can tell whether her babe should have food, or medicine, or the services of the nurse simply. Perez reports a child who as early as the fifteenth day revealed hunger by a special modification of the original cry; but most observers have noted the beginning of differentiation of the primitive wail at a somewhat later period. Mrs. Hall ³ noticed a peculiar timbre in the voice of her nine-weeks-old child when he was impatient, a different one when he was

¹ The poets have attached a variety of significations to the primitive cry. Some have said that it is a shout of joy, others that it is a protest, others that it is a song of triumph, and so on. But students, as Preyer, Tracy, and Major, for instance, regard it as a purely reflex act, without meaning so far as the infant is concerned.

² See, for instance, Major, "First Steps in Mental Growth," p. 284.

³ See the *Child Study Monthly*, May, 1896–April, 1897.

hungry, and a still different one when he was appealing to her for aid or care. Darwin¹ thought his boy voluntarily modulated his voice in the eleventh week to indicate that he desired a certain object. Compayré² has not observed a clear differentiation of the various cries until toward the sixth month. President Hall³ noted sixty-three variations in his son's vocal expressions before he was five months old. It is probable that the cry of hunger and that of colic are earliest individualized; the latter is seemingly more vehement, more violent than the former, or than any other; but it is not possible to detect a marked difference in the elementary vocal qualities, as intonation, cadence, and so on.

Leaving aside the matter of precise dates, it is enough for us here to recognize this first step in linguistic development, — the particularization of the original squall to express particular needs. It has already been indicated that out of the general cry of discomfort the hunger cry quite early emerges so that it can be distinguished by the mother or governess. As development proceeds, various specialized cries gradually make their appearance; and while it is impossible to tell just the day when the cry of fear, for example, appears, still there is no mistaking it as early as the beginning of the third month at the latest.

¹ "Mind," Vol. II, p. 101.

² "Later Infancy of the Child," pp. 72-73.

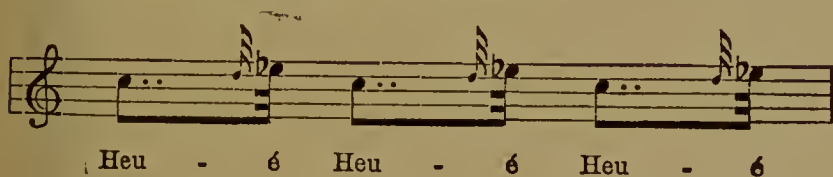
³ *Ped. Sem.*, Vol. I, 1891, pp. 132-133.

Preyer¹ thought his son Axel could employ particular sounds in his fifth week to express hunger, pain, cold, joy, and desire. Darwin could not detect any difference between the cry of hunger and that of pain before the eleventh week in the case of one infant, and a little later in the case of another, although in the sixth week he noticed a soft murmur indicative of joy, which he ascribed to the development of recognition. Some observers have reported hearing the cry of anger as early as the sixth week; but it is probable that this is generally differentiated at a somewhat later date. For a considerable period the child seeks help, in his instinctive way, when he is in need, but he does not assume an aggressive or combative or angry attitude toward his environment; he is rather dependent and suppliant. So, too, it is doubtful if vocal expressions for joy in any true sense appear until the expressions for hunger, colic, fear, and it may be anger, are individualized. The infant seems to have ready-made a mechanism for expressing discomfort, but he must wait upwards of two months before he can reveal pleasurable feeling vocally, even in an elementary way.

It is significant that during the first few weeks one infant's cries cannot be distinguished from those of another so far, at any rate, as the ordinary ear is concerned. The

¹ See his "The Development of the Mind of the Child" (translated by Brown), Vol. II, p. 101.

cry is quite devoid of individual color or timbre, a point mentioned by Garbini and Egger. It is best represented by the symbol \check{a} , though some regard it as more complex. Preyer, for instance, represents it by *u* (as *oo* in *book*) and *ä* (as *ai* in *fair*), making it *uä*, *uä*. Garbini locates the cry of the newborn child between fa^2 and fa^3 , and it remains here for two or three months. Wilson¹ represents the cry on the musical staff as follows:—



During the first week or two the original sound \check{a} is modified mainly in respect to volume and intensity to express different experiences; but before the second month the infant begins to add to his repertoire, and once started, he gives himself to it for many months. The process of development is earliest manifested in differentiation of the original \check{a} sound, producing other vowel sounds of both higher and lower range, a point noted by Lukens,² Tracy,³ Ament,⁴ Meumann,⁵ Allaire,⁶ and others. Then as he

¹ See "Prehistoric Art," *Report U. S. Nat. Mus.*, 1896, p. 516.

² "A Preliminary Report on the Learning of Language," *Ped. Sem.*, Vol. III, pp. 424-460.

³ *American Journal of Psychology*, Vol. VI, pp. 69-93.

⁴ "Die Entwicklung von Sprechen und Denken beim Kinde," p. 211.

⁵ "Die Entstehung der ersten Wortbedeutungen beim Kinde," p. 11.

⁶ "Des Premiers Rudiments du langage infantin," *Bull. Soc. d'Anthr. de Paris*, 1890, pp. 485-490.

The physical qualities of early vocal activity.

goes on he gradually introduces consonantal sounds, labials first, without doubt; then probably the gutturals, the easier of them; then the dentals, and finally the nasals.¹ Of course, these several varieties of consonants are not rigidly marked off from one another as the child masters them, but in general he probably executes them in the order given.² They are always combined with the original *ă* or some of its differentiated forms. Preyer, Pollock, and others have attempted to indicate in detail the child's progress in developing new sounds and in combining them; but it is extremely difficult, if not impossible, to do this successfully. It may be noticed that in attempting to express the sounds made by an infant an adult will inevitably interpret them in terms of the nearest literal representatives of his own speech. Perhaps no adult can even listen to an infant with an absolutely unprejudiced ear; he is likely to hear through the medium of his own usage. The child's early vocalizations differ so markedly from the adult's in volume, cadence, intonation, and so on that to attempt to express them in symbols which are used to indicate the quality and movement of the mature voice is practically certain to convey a wrong impression to the reader. I have tested a number of adults in the execution of the sounds which Preyer, by means of literal representation,

¹ See the author's "Dynamic Factors in Education," Chap. IX, for a detailed presentation of this point.

² See Tracy, "Psychology of Childhood," pp. 119-157, especially p. 127, for evidence bearing on this point.

ascribes to his son Axel, and I am confident they all went wide of the mark.¹

But while we cannot graphically represent these sounds exactly, or analyze them fully as they grow more complex, we can still make out what they mean in a general way. Of course, we are aided in our interpretation by the child's bodily attitudes, his facial expression, his intonation, and the like. It is a commonplace of modern psychology that the fundamental emotions are revealed in characteristic motor attitudes and complexes; and the vocal are probably always congruent in meaning with the general motor expressions. If the mother does not at the outset recognize the angry cry as such, she will soon learn to understand it through the accompanying facial and bodily demonstrations. Again, a child as early as the third month

¹ Mrs. Moore says, touching this point: "At the close of the fourth month it was my impression that the child had made well-nigh all the sounds which occur in the language. Yet I had the exact record of but few which had been pronounced as isolated sounds, or as short syllables, and so distinctly as to render their identification easy and certain." "Mental Development of a Child," *Monograph Supplement to the Psychological Review*, No. 3, 1896, p. 115.

Egger found it impossible to express in the letters of the alphabet many of the sounds he heard from the fifth week on. It may be of interest to recall in this connection that Stanley Hall (see notes on the "Study of Infants," *Ped. Sem.*, Vol. I, p. 133) declares he distinguished sixty-three different sounds made by one of his children before he was six months old. I have tried often to perform this feat in my observations, but I have found it impossible to unravel the tangle of sound combinations and *be sure* of the elementary sounds to any such extent as reported by Dr. Hall and others.

will sometimes protest through voice and body against being put into his cradle from his mother's arms. Also, if parent or nurse comes within range of his vision, he will "beg" to be taken up. The agitation of his arms, legs, and features and the "pleading" tone in his voice indicate his desires clearly enough, and it is not long before the parent can tell from the vocal expression alone that he wishes to be taken. By the sixth month or so the "teasing" quality becomes differentiated so that it can be easily recognized; and specialization goes on until by the close of the first year one may be in a room apart from the child, but hearing him tease it is possible to tell whether he is pleading to be taken or to be given some object he desires.

Agreement
among chil-
dren in the
first vocal
combina-
tions.

Attempts have been made by some writers to show that in the beginning all children use similar combinations of sounds in expression of similar experiences, the implication being that they must travel over the same route in acquiring language. This suggests the story, credited to Herodotus, of the experiment of Psammetichus, king of Egypt. He placed his two children under the care of a shepherd who was not to utter a sound in their presence, but who was to note the first word they spoke after a period of total isolation from human associations. This word happened to be *bekos*, the Phrygian word for bread, and the king concluded that the Phrygian must be the parent of all languages. But most observers have noticed that the earliest

combinations used by children in our day are formed by combining the consonantal sounds denoted by *m*, *p*, and *b* with the original vowel *ă* sound, making *mă-mă*, *pă-pă*, and *bă-bă*. All children use them without any objective reference at first, but the parents and nurse seize upon them, and attach them to particular objects; and by employing them in this manner, they impress them on the infant. But when we get beyond these few combinations, there is no general agreement. Miss Shinn¹ found her niece uttering "*nă-nă-nă*" as a protest, or expression of unwillingness; but S. used this combination at seven months when he was in the best of spirits, and his caretaker attached it to herself, as her name was Anna. Then the children who followed S. were taught *nă-nă-nă*, as the caretaker's name, through the action of the caretaker herself, and the parents and brothers and sisters, in repeating it and attaching it to the caretaker. Axel Preyer² used "*atta*" when anything disappeared from vision, and later he used "*tto*, *t-tu*, *ftu*"; while Miss Shinn's niece³ used for the same sort of experience, "*M-gm*" or "*Ng-gug*." Instances might be multiplied indefinitely to show that the objective reference of particular combinations is at the outset entirely individualistic, except for the few cases indicated, and even in these it is determined by the action of the particular social

¹ "Biography of a Baby," p. 225.

² See Preyer, *op. cit.*, p. 131.

³ "Biography of a Baby," p. 226.

environment, and not by any purpose or plan on the child's part. People take what he produces in a spontaneous way, give it a meaning, and then teach it to him.

The motive of expression at the outset.

It should be emphasized that in the early weeks vocal expression always denotes some need of the organism. It is an indication of discomfort of some sort.¹ The feelings accompanying a congruent relation with the environment are apparently yet very weak, unless mere animal satisfaction — a kind of passive or possibly negative condition — can be called feeling. This animal contentment is revealed in what some have called grunting, though it is hardly defined enough for this. It seems to be the most general and characterless sound which the child utters. An infant of three weeks who has had enough of the right sort of food, and who does not suffer from colic or cold or too rough or too tight clothing sleeps almost continually between feeding times, and it is only immediately after a full meal that he gives expression at all to his feeling of satisfaction. He is at this period only a subjective creature,² having little or no desire for expression so long as all goes well with him physically. He shows no awareness of an

¹ Compare Moore, *op. cit.*, p. 57.

² Compare with this statement the views of the following: Baldwin, "Mental Development, Methods and Processes," pp. 15-34; Guibert, "Mental Evolution," in *Bull. Soc. d'Anthr. de Paris*, 1892, p. 714 *et seq.*; Valentin, "Psychology of the Child," *Revue des Etudes Philos. et Soc.*, March, 1898.

environing world of persons or even of things to be communed with. He manifests no tendency to *share* experience through any medium of expression. His vocal is but one phase of general motor excitement. Squalling is always accompanied by agitation throughout the muscular system, never by relaxation or absence of movement in legs, arms, and features.

2. Beginnings of Purposeful¹ Expressional Activity

Toward the close of the second month (some observers make it a little earlier) the infant begins to attend through both sight and hearing to the world about him. The mother's face is perhaps the first object really to attract attention, though a candle or handkerchief may momentarily arrest the infant's wandering eyes. But there is no doubt of his "studying" his mother's features. His eyes are kept upon her face for many minutes at a time, and you

The appearance of awareness of the environment.

¹ From one point of view instincts and reflex actions are, of course, purposeful. They serve to indicate organic needs, and to influence the environment so as to have these needs attended to. But it is hardly necessary to add that in the child's own consciousness instincts and reflex actions are without purpose; he does not conceive ends which he strives to attain through definite, correlated activities. The term "purpose" should, it seems, be applied only to those activities which the individual performs consciously for specific ends, which in the course of his individual experience have come to appear valuable to him. Reflex action, then, may be useful but hardly purposeful; phylogenetically it may have been purposeful at some point, but ontogenetically it is really mechanical. It is the product of ancestral, not of individual experience; it is a matter of physical heredity as completely as the form or structure of any part of the soma, which makes the term "purposeful" inapplicable to it.

can observe them sweeping around from one prominent point to another, but keeping within the facial boundary lines. The muscles of arms and legs are relaxed; and while engaged in this exploitation, the infant expresses in his motor attitudes what in the adult we would call uncertainty, curiosity, and wonder. But it is significant that no sound of any sort escapes him, unless he becomes frightened. It seems evident that an attitude of wonder or uncertainty is not favorable to vocal expression. There is neither active sympathy with nor antagonism toward the environment, and so there is no occasion for expression. In such a case, the child is arrested in his reactions, since it is not as yet apparent what is to be done with reference to the immediate situation. In this connection there may be stated a principle which will be often illustrated concretely in the following chapters; namely, *that all possible varieties of expression are indications of an active or dynamic attitude of the individual toward his environments*. In the beginning, as intimated above, vocalization is just one phase of a general motor reaction upon situations; and when measured in terms of energy expended, or motor systems involved, it is always but a minor part of the total expression. But *with development the vocal elements in expression tend to become more and more prominent, and the general motor accompaniments in many reactions gradually subside, at least after the fifth or sixth year*. The vocal elements alone come gradually to serve the purpose of the

original total motor complex. But this point must be worked out in detail as we go on.

Soon after the beginning of the attentive attitude toward the mother's face the smile appears. This is the first genuine expression of agreeable or pleasant feeling in reaction upon the objective world, and the child employs it as a sort of greeting to those who care for him. Mantegazza,¹ in his study of expression, divides human life into distinct periods, the first of which is infancy and childhood, characterized by good-humor and consciousness of perfect health. Now, it is certain that during the first six weeks there is no expression of good humor, as I have intimated above. Mantegazza should have included in his scheme a period which is characterized by general curiosity or wonder, and not at all by good humor. But putting this question aside, it may be said that the infant's smile seems to be an expression of confidence in the parent; at least the parent never fails so to interpret it. It is always an occasion for rejoicing when the first smile is detected, for it denotes to all who behold it the birth of a new attitude in the child. It is probable that the first true smile is the expression of a marked change taking place in the child's adjustment to his environments. It suggests a developing objectivity in consciousness, the beginning of an awareness of a social world without to be taken account of and adapted to or manipulated in some manner. Sigismund

The advent
of the smile.

¹ See his "Physiognomy and Expression," p. 118.

made the first epoch in the child's life to extend from birth to the first smile, and other students, like Schultze,¹ for instance, have adopted a similar view.

The first
steps in
language
proper.

At about this period, contemporaneous with the appearance of the smile, the first step in the development of language proper is taken. The child makes an effort, apparently a conscious or deliberate effort, to respond through vocalization to those who entertain him. One can see him at this period smiling back into his mother's beaming countenance, and uttering purring sounds and grunts and fragments of laughter. It is at this time that he begins to purse his lips and command his tongue, seemingly *trying* to make sounds. Egger must have had this period in mind, though he locates it considerably earlier than the time here given, when he speaks of the transition from cry to voice. All the fundamental characteristics of language are present in these first attempts at speech. They never occur except when the child is in a pleasant mood; and in the beginning at any rate they require the presence of persons for their stimulation. But after a time (Mrs. Moore says as early as the eighth week²) the child "coos" and "crows" and "plays" with vocal sounds merely for the pleasure he gets out of the exercise as an end in itself, without reference to the needs of communication. Miss Shinn³

¹ See "Die Sprache des Kindes," Leipzig, 1880.

² *Op. cit.*, p. 115.

³ *Op. cit.*, p. 225.

remarks of her niece that as "she came to ten months old she was a greater chatterer than ever, pouring out strings of meaningless syllables in joy or sorrow with marvellous changes and inflections." Many observers speak of the spontaneous "babblings" of children from six months on, the term itself suggesting a playful use of vocalizations. This has been marked in the children I have observed, and I regard it as of primary importance in linguistic development.

As the child develops, the amplitude of his spontaneous expression continually increases; but up until the eighth or ninth month his speech is not modelled in any particular upon the special patterns presented in the formal adult speech used in his environment. Preyer thought his child imitated him as early as the fourth month; but the majority of observers have not noticed linguistic imitation, at any rate, earlier than the period indicated. Before this time the child is unable to use conventional words, unless we should call some of our exclamatory sounds words. However, in the matter of *intonation, modulation, accent*, which depend upon the particular emotional value of particular experiences, the child of six months comes quite close, within his range, to the models presented by the adults with whom he is associated. When he is greatly pleased, his exclamations ring out merrily; when he wants to be taken, his call is stern, commanding, impelling; when he is frightened, his cry is full of alarm, and so on.

The late acquisition of conventional words.

Given any fundamental feeling and the child is an adept in all the arts of expressing it, save in the single matter of the employment of formal, conventional, verbal symbols. Even when he begins to use conventional symbols, he supplements them very generously with gesture and intonation, making these latter aids do for verbal complements and inflections and modifiers of all sorts. This is what enables the novice to accomplish so much with such a small stock of conventional terms, and with scarcely any grammatical differentiation whatever. An observer of a year-old child may see illustrated every hour the principle involved in Preyer's statement, — that his son in the beginning of his linguistic career employed the word *atta* to express eleven different meanings, each being distinguished from the others by intonation and gesture.¹

¹ It may be remarked in passing that the chief thing in training expression, leaving aside formal language for the present, is to awaken dominating feeling; to develop emotional attitudes and establish them securely, and then the whole expressive apparatus — face, arms, hands, voice, posture — will coöperate in revealing it so that it may be correctly interpreted by one's fellows. Our modern conception of human nature, on the expressive side, as presented by James, Lange, and their followers, regards emotion and its appropriate expression as but phases of a unitary process. We cannot to-day speak of emotion as having any existence even apart from motor realization. However this may be, we note, as we follow the child in his development, that as feeling becomes differentiated he finds ready at hand an elaborate mechanism for expression. It is probable that the expression of joy, of confidence, of friendship, of curiosity, of fear, of anger, of desire, and so on, cannot be improved in the young child by any amount of training. These modes of expression seem to have been perfected throughout ages of racial practice, as modern

3. First Efforts at Interpretation of Expression

Thus far mention has been made only of the initial stages in the child's revelation to those about him of his more vital experiences. Before proceeding further along this line we need to glance at his method of responding to, or interpreting, the expressions of others. It was intimated above that for the first three months the child is quite indifferent to his social environment; he makes no response thereto save in the crudest instinctive manner. There being no social environment for him, there are no expressions to interpret. But upon the advent of the objective epoch already alluded to, when the world without commences to claim the infant's attention, the expressions of the alter begin to play an important rôle in his reactions. As early as the fourth month a child can be made to react in a terrified way at the sound of a loud, harsh command. I have many times made the experiment of producing a mod-

Response to
vocal timbre.

writers like Darwin, Mantegazza, Baldwin, Dewey, and others appear to maintain; and we need have little concern about them directly. Our concern must rather be with the attitudes and reactions of which they are severally the expression. We do not refer here, of course, to the expression of ideas pure and simple. Heredity has equipped the individual with the means and methods of expressing adequately emotional experience; but she has left him rather destitute of effective means of portraying intellectual experience, at least when it attains to any considerable degree of complexity. Articulate speech alone is adapted well to this purpose, though gesture and pantomime are of some service in revealing simple intellectual content, as is shown in the use made of it by children and primitive men, and blind deaf-mutes, like Laura Bridgman and Helen Keller.

erately loud noise, with a hammer or similar object, close to a four-months-old child to see if it was the loudness simply that produced fear, and I have found that a severe, "cross" voice of less volume than the stroke of the hammer will ordinarily exert a more marked disturbing effect on him. There appears to be a genuine reflex response to the *quality* or *timbre* of a voice, as contrasted with mere noise; and this is quite striking in the reactions of the child after the fifth month. I can call "baby" to K. in such a way as to produce a joyous, smiling reaction; or I can say it, without changing my facial expression materially, so as to alarm her, and produce distress; and the principle seems to be universal in its application. The infant's concern with the vocal expression of his mother, say, is in its emotional significance, not in its intellectual content, so that he must take account of timbre rather than of the sounds as abstractions or symbols. A considerable period elapses before the child begins to be attentive to vocal expression as symbolic of objects or phenomena. In the course of development he shifts from concern wholly in the beginning with vocal *quality* to concern in the end mainly with conventional words or symbols.

Response to
facial expression.

The child seems to find meaning in the "voice" earlier than in any other mode of expression. One cannot frighten one's three-months-old babe by making ugly faces at him, notwithstanding the view advanced by some that very young children are afraid of big teeth and eyes and unkempt hair.

Again, an infant will often not discriminate between the features of his mother and those of another woman; but he will detect a strange person by the way in which she holds him. And he appears also at a very early age to distinguish the voice of a stranger from that of his mother, though it is difficult to detect just when this sort of discrimination appears. But while the infant seems to be somewhat tardy in acquiring eye-mindedness to personal expression, he develops with extreme rapidity in this respect, once he gets under way. When a child of seven months becomes impatient and boisterous, one can often pacify him by *looking at him* with a disapproving countenance. He shows a remarkable apprehension of his mother's feeling as revealed through her attitudes and facial expression; and his appreciation grows ever more subtle as development proceeds. Many observers speak, in effect, of young children *studying the faces* of those who have charge of them, and before they are a year old they become adept in interpreting the signs displayed thereon. It seems that, beginning with the sixth month, or thereabouts, and for many months thereafter, the child gets his cue to our attitudes more largely from our faces and voices than from our conventional language, though in time he comes to rely mainly, though not wholly, upon the latter.

Summarizing the principles developed in the preceding **Summary** pages, we have the following:—

1. The first eight months or so of an infant's life may be

regarded as a pre-linguistic period, during which he neither uses nor interprets conventional language.

2. The infant's early vocal expression is reflex, and for the first two weeks at any rate is an undifferentiated squall, probably expressive of some sort of discomfort.

3. Between the second and fifth weeks the primitive squall begins to be differentiated to denote special forms of discomfort, as colic, cold, hunger, fear, etc. From this point on, differentiation progresses rapidly, so that soon all of the child's vital experiences may be revealed in specialized ways.

4. The infant's vocal register is at the outset limited to the sound indicated in a general way by *a* or *uä*. With development he goes up and down the vowel register for some time before he can execute consonantal sounds. The first of the latter to appear may be denoted in a general way by *m*, *p*, and *b*. The labials are probably first executed; then follow in order the gutturals, — the easier of them, — the dentals, and the nasals.

5. The first articulate words used by most children are denoted in a general way by *mă-mă*, *pă-pă*, *bă-bă*, which, through the action of the social environment, are attached to definite objects. Further than this there does not appear to be any agreement in the combinations they employ to denote particular experiences.

6. The motive for all the infant's vocal expression is to secure relief from some discomfort.

7. Purposeful expressional activity does not appear until the infant begins to be aware of an enviroing world of people and things to be reacted upon. The advent of this period is somewhere near the third month, and is signalized by the birth of the true smile.

8. The first step in language proper is taken when the infant responds with vocal effort to his mother's salutations. At first he "coos" only when he is stimulated by the presence of his mother's face; but soon he "plays" with vocal sounds whenever he is left to himself, thus in effect practising for conventional speech.

9. But conventional words are not employed before the completion of the first year ordinarily. The child spontaneously makes combinations, and the mother gives them meaning by attaching them to particular experiences.

10. The child of a year old is an adept in the use of grimace, gesture, intonation, etc., as aids in expression, thus compensating for his small stock of conventional terms.

11. In training expression the aim must be to have the child enter fully into the situation to be portrayed, when the reflex expressive mechanism will function effectively.

12. In the child's early efforts at interpreting the vocal expressions of others, he relies wholly upon vocal *timbre*, at the outset, and this is in time supplemented by facial expression, and general motor attitudes. He does not, during the first year, respond to words as symbols.

CHAPTER II

EARLY REACTION UPON CONVENTIONAL LANGUAGE

I. Spontaneous Vocal Activity

Voice Play.

IN the acquisition of conventional language as a means of expression the child must gain a mastery, as we say, of verbal characters that have only a symbolic connection with the objects or phenomena to which they relate. How does he make a start in the conquest of these symbols? Certain principles already mentioned must be kept in mind in discussing this question. In the first place, nature has endowed the individual with a marked tendency toward vocal activity. Long before he can imitate conventional verbal forms he can and does indulge himself in a wide range of spontaneous vocal combinations. This primordial babbling, as Sully calls it, goes on quite irrespective of the particular vocal complexes used in the child's presence. The voice play of the English child, the German child, the French child, and the Italian child is the same in essential features. Their vocalization is a "riotous" or "wild" display of energy, as Kussmaul¹ would say, without reference to conventional linguistic models. This

¹ See his "Die Störungen der Sprache" (Leipzig, 1885), p. 46.

might be called the period of spontaneity (using Preyer's term) in linguistic development; though in speaking of it as a *period* it must be understood that it is not possible to set definite boundaries to it; to say just where it begins and where it ends. But yet spontaneity is the chief characteristic in vocal activity from the fifth month, say, to the third birthday or thereabouts, though it probably persists, in ever diminishing prominence, until the period of linguistic maturity is reached.

There can be no doubt that the child finds pleasure in verbal exercise as an end in itself, which is in all likelihood due in some part to his consciousness of achievement — of conquest. As Groos puts it, the child experiences joy in being a cause, and this is probably felt, in an indefinite way, as early as the fifth month. Later, when he can say readily, and without tripping — “Peter Piper picked a peck of pickled peppers,” etc., he behaves as though he had accomplished a difficult feat, much as when he runs a mile faster than a competitor, or makes a record in climbing a tree, or solving a puzzle. That is to say, achievements in linguistic action are, in the pleasure they give, not unlike achievements in any other direction. The child, then, will play at vocalizing for the same reason fundamentally that he plays at jumping or climbing or pounding. Happily, through this exercise he calls into play a great variety of coördinations of his vocal mechanism, and puts it in trim for executing later the conventional words

and phrases current about him. It should be added that this tendency toward linguistic play is augmented when the child associates with children of about his own attainments. One may hear young children vying with one another to see who can produce the most intricate and elaborate combinations, much as they compete in yelling, or running, and so on. H., who did not see much of children until she was three, showed less interest in linguistic play during this period than the brothers and sisters who came after her. But even in her case the parents and nurse would catch up her accidental combinations, especially those that were amusing, and play with them, and this would have the effect to encourage her to greater vocal effort. But adults are not usually, it seems, as good stimulators of children in respect to this or any other allied activity as playfellows of similar age and abilities.

It should be emphasized that in this vocal practice the outcome is not the fusion of object or action and its linguistic symbol; it is rather the development of vocal facility. One may hear a young child just gaining control of his vocal apparatus rehearse a word, as "mamma," for several minutes at a stretch. He may be, and I think usually is, alone¹ during these vocal gymnastics, and all

¹ When I say the child is usually alone when he is engaged in linguistic play, I do not mean that he is "talking to himself," as the governess reports. The volume and tone of his voice at such times indicates that he is, probably unconsciously, calling to some one at a distance. I have been much impressed with the *call* tones in all the young

the evidence indicates that he is engaged in linguistic practice merely — fixing securely a motor series of a special kind. When he acquires facility in the execution of a given word or expression, he gradually abandons drill on it, and applies himself to new tasks. This principle seems to apply, though to a continually lessening degree as development proceeds, to every stage of linguistic development. The individual seems always to rehearse new words and expressions which he will have occasion to use in daily life, even in later years when he takes up a new language. This practice seems to be more or less mechanical in the early years; it is as though, when the child hears strange words (though not too strange or too far removed from his present linguistic achievements), there is a tension in his vocal system until it gets adapted to the easy rendering of the new combination. Then the tension is released, and so the practising activity gradually ceases.

It will be granted, no doubt, that if the child did not

child's linguistic activities, except when he is responding to some one who is directly before him and looking into his eyes. One may listen to a child babbling in a distant room, where he is alone, playing happily with his toys; and his voice has continually that peculiar timbre or intonation or whatever it should be named that characterizes the tones of an adult when he is calling to some one at a distance. The child is not addressing his toys; his talking is incidental, playful, without being the special object of attention; and in a more or less reflex way it takes on the characteristics of the call. All early linguistic activity has something of the interjectional, or exclamatory, about it, as we shall see later; but the call tones are *sui generis*.

The development of voluntary out of spontaneous vocal activity.

vocalize in this spontaneous and excessive way he would never learn to use the conventional speech employed in his environment.¹ Sully speaks of this as a "rehearsal"² for the use of language later on. Most students of mental development, as Groos, Hall, Baldwin, and others, regard play, linguistic or otherwise, as a preparation, at least in part, for the serious enterprises of mature life. It is a principle of universal validity in mental evolution that as the individual proceeds his activities become shaped ever more largely by the needs of adaptation to the environing world. At the outset his actions are determined largely from within; and the process of development is in a measure one of selecting out of the original activities those which are most serviceable in adjustment; and this method of development holds in the acquisition of linguistic forms as in all else. In the beginning of vocal experience, as we have seen, the infant is quite indifferent to the particular combinations employed about him; but by the close of his first year he shows that he is inclined to give some little attention to the simpler combinations he hears, and he strives in a crude way to reproduce them.

In his first efforts at linguistic imitation the child copies

¹ In his "Dynamic Factors in Education," Chap. IX, the author discusses in some detail the general principle of the development of voluntary out of spontaneous action.

² "Rehearsal" seems hardly the right term, since the child does not practise speech in just the way it will later be employed. *Gymnasticizing* would denote the process more accurately.

general vocal activity only. That is, when people talk to him, he reacts in vocalizations, but not in any pattern of sounds that is spoken to him. He imitates the general activity of voice-making, but not special word-making. No matter what I say to K. at fourteen months, she responds at once with a wealth of babbling, but with no attempt to copy my words. We can conceive that the child hears, more or less appreciatively, varied sound elements in the speech of adults, but he does not hear them *in any special sequential relation to one another*. Vocal activity in the adult sets agoing vocal activity in the learner; but once the latter gets started he loses sight entirely of the particularities in the speech of his model, and he runs on in his own way.

K. at eleven months could use several words resembling in a way the conventional forms used by her parents, as, for instance, *hă* (hat); *bă, bŭ* (bow wow), the words used by those about her for dog when speaking to her; *tă, tă* (tick tock), the sounds used to designate a watch or clock. She apparently acquired these words by imitation, supplemented by the reaction of the people about her upon her crude approximations. She had also a few words of her own coining which were attached spontaneously to objects, and these her elders took up, and they became fixed in her vocabulary for a considerable period. A word resembling *Ndobbin* was employed for every sort of thing which she used for food. The word came originally

The linguistic ability of the year-old child.

from an accidental combination of sounds made while she was eating.¹ By the aid of the people about her in responding to this term and repeating it she "selected" it and for a time used it purposefully. She employed it at the outset for a specific article of food; then her elders extended it to other articles, and this aided her in making the extension herself. Once started in this process, she extended the term to many objects associated with her food, even objects as remote from her original experience as dining room, high chair, kitchen, and even apple and plum trees. She had seen fruit picked from these trees and put into people's mouths, and this would usually excite the use of the word. These instances are typical of much of the child's linguistic activity during the first two years at any rate; and the principles involved are applicable to a greater or less degree at every point throughout the entire period of language learning.

In this connection it may be noted that the year-old child can use his limited stock of abortive words only when in immediate contact with the objects or actions which they denote. When K. sees her bottle, for instance, she can name it in her way. At other times, however, she may be hungry, but she can reveal her need only by means of her original cry. She either cannot image her bottle; or if

¹ Allaire (*op. cit.*) reports a sound, *nga, nga*, made early by his children in connection with tasting, but I am not familiar with any other instances of a similar character.

she can, the image cannot revive the special vocal complex which the object itself readily reinstates. I do not forget that there is a principle of wider applicability involved here. All of the young child's voluntary activities are determined very largely, if not entirely, by the stimuli directly impinging upon him. Absent objects or situations do not exert much if any influence upon his behavior, probably because the power of imagery is but very slightly developed, evidence of which is found in all the child's reactions.¹

It should be noted that the child's first imitations are concerned primarily with the motor processes, of the lips principally, required to make words, or to perform actions with reference to objects. This gives him his consonantal elements which become joined to one or another of the elements in the vowel range which he can execute. It is so with *bũ* for "bow wow"; *tũ* for "tick tock," and so on. H.'s first word for gas, lamp, gas fixture, candle, match — any lightable thing so far as she knew it, was a combination made by an *ũ* sound joined with expulsion of breath required in blowing out a light. The child seizes upon some characteristic activity which he can *see* performed in reaction upon any familiar thing, and this when he repeats it means this thing to him; and in time he may extend it to various objects more or less closely connected with the

The visual factor in the child's early linguistic imitations.

¹ Certain phases of the principle in question are considered in the author's "Education as Adjustment," Chap. X.

original object. If the people around him respond appropriately, he tends to settle upon this symbol and conventionalize it for his own use for a time. Sometimes these home-made symbols are retained for a long period, regardless of the terms used by his elders. They are retained until the child discovers in some manner that other terms would be more serviceable, or until the parent or teacher restrains him from employing them. The child is not at first keenly ear-minded when the eye will help him to the means of designating an object or repeating a word. When you speak to him in strange terms, he always attends closely to the movements of your vocal apparatus: he *looks at* you as attentively as he *listens to* what you say. As he goes on in linguistic development, however, the ear-minded attitude becomes gradually supreme because of the necessity of his reproducing subtle verbal combinations when the eye is unable to detect very easily how they are executed.

2. Linguistic Invention

The distinction between play and invention.

The invention of new verbal combinations for the purpose of communication, which Krauss, Hale, Chrisman, and others think is characteristic of all children in the course of their linguistic development, is a quite different matter from linguistic play. The latter, like all play, is an end in itself; or it is one form of competitive activity. But in the invention of a language, in the true sense, the child always has a definite use to which his linguistic terms

are to be put. Children gather into cliques, and then devise some novel passwords or keywords which are understood by their own set, but are as Greek to the barbarian. H. has a few terms and phrases which she uses in communicating with her girl friends when her brothers are about, and she does not wish them to be let into the great enterprises which she has in contemplation. It is probable that some of the specimens of "secret languages" mentioned by Chrisman¹ could not be satisfactorily accounted for in this way, but yet doubtless most of them had their origin in the need of devising some means of communication which would be exclusive. Of course, mutilated words, such as occur in "baby talk," cannot be regarded as original or invented, since they are purely accidental variations arising from the effort of the child to reproduce a copy. He does the best he can, and believes he is hitting the mark. Baldwin,² it is true, makes this variation in imitation the basis of invention; but while in language it does result in the production of new forms, yet the individual is ordinarily unaware of his deviation from his copy, and as a general thing he does not use his invention with any consciousness of its originality, or with the purpose of employing it in a different way from that

¹ See the *Century Magazine*, Vol. LVI, pp. 54-58; also *Science*, Vol. XXII, p. 303.

² See his "Mental Development; Social and Ethical Interpretations," Part II, Chaps. III and IV.

in which the copy is used about him. Further, he abandons it as soon as he acquires the ability to reproduce more exactly the conventional forms of the mother tongue. It is doubtless true that most children find pleasure in the production of variations upon some of their familiar words. Their purpose seems to be to test their ability to be original. The performance of an unusual act affords pleasure in linguistics as in other matters. H. learning the word *dessert*, to illustrate, plays with it for a time and exhibits it in a dozen or more variations, — *dïssert*, *dishert*, *dësot*, *des'sert*, and so on.¹

Chrisman's view that secret language is a "thing of child nature" seems to be true in only a very limited sense; children rarely work out a linguistic system *de novo*. I have not been able, either, to find the three distinct periods in language learning, which Chrisman mentions, the last of which, falling between the eighth and fifteenth year, is the "secret language" period. I have observed, however, that when the child begins the study of foreign languages, he constructs more or less accidentally, though in some cases deliberately, novel combinations made up of elements derived from the mother tongue and the strange tongues.

¹ In a later chapter I shall discuss the influence of analogy in linguistic invention — in the inflection of unfamiliar words on the basis of familiar ones, and more rarely in the making of words, practically *de novo*, in following out a principle of construction apparent in words that are known — *booktionary*, *sorri-fied*, *magnicious*, *horsebacking*, *pianoing*, *wind-ship*, *eye-curtain*, *lessoner*, etc., are examples.

The new linguistic activity stimulates in some degree the tendency toward linguistic play, the situation being not wholly unlike what it was when the child was a novice in his own tongue.

3. Interpretation of Conventional Language

It was suggested above that in the interpretation of conventional language the child is greatly aided by the skill he has inherited in making out the significance of vocal timbre and featural expression. The parent's first words to her child are expressions wholly of emotional states, and he gets his cue as to meaning from her intonations, her bodily attitudes, and the play of her features, and not at all from the words as mere symbols. But in the course of time, according to a process sketched elsewhere,¹ the auditory factor alone — the word — comes to assume the suggestive function originally performed by intonation, etc., and to awaken the feelings and reactions which were originally awakened in other ways, and in this manner it acquires meaning.

The understanding of words as symbols.

But how does the child learn to interpret words that relate to objects and situations apart from the mother? The principle is illustrated in the following instance. The mother says to her child, "baby up?" and she assumes the attitude of jumping up herself; or, better still, she tosses

¹ For a discussion of the process in question see the author's "Education as Adjustment," pp. 210-223.

the baby up, using the words at the same time. Soon, of course, the words become associated with these definite activities and suggest them when heard. It should be added that it is difficult to determine just when words as pure symbols, without any aid from intonation or gesture, are able to awaken definite and appropriate "ideas" and reactions. It is, however, a matter of common observation that in speaking to a two-year-old child, say, regarding even quite familiar objects and actions, people generally make generous use of all the expressive aids.

The child's range of interpretation of conventional language will never exceed his range of vital, concrete experience; and, as a matter of fact, it lags behind some distance. Mrs. Hall¹ observed that her son at five months would turn toward the mirror at the sound of the word "baby," and would look toward the speaker at the sound of his name, "Albert." But it is not clear that he understood these terms as conventional symbols. It is possible that he would react in the same way upon other terms if they were used under precisely the same circumstances. No matter what K. may be doing at any moment, I could get her at six months of age to look at me by speaking almost any word if it were uttered as a call, or with interjectional tone. On the other hand, I could pronounce the word "Katherine" any number of times in regular discourse

¹ *Child-Study Monthly*, Vol. II, p. 587.

with her mother or brothers and sister, where intonation was an unimportant factor, and K. would not notice it. The point is that normally a six-months-old child will hardly respond definitely to any conventional words used strictly as symbols. Every word reacted upon in a uniform way at this period must be richly supplemented with intonation, grimace, and gesture; and these latter factors are what will give it meaning to the child.

Keeping in mind this principle, I have found that at ten months the range of K.'s interpretation of conventional language seemed to include the names of father, mother, nurse, brothers, and sister, "baby," "doggie," "horsie," "bottle," "baby down stairs," "dry clothes," "tick tock," "baby up," "comb hair," "pitty-pat," "give papa some." In the case of V. the range at this period did not go beyond the names of the members of the family, and possibly "dog" and "bottle." His linguistic development has been much slower than his brother's or sisters'. On the other hand, S. appeared to know what was meant by the terms "piano," "out doors," "don't cry," in addition to most of those understood by K. It should be repeated, though, that it is impossible to say with definiteness just when a symbol as such is understood, or just what understanding the child has of it. Certain it is, however, that his understanding becomes defined and amplified very gradually upon repetition of experience; and it is also certain that his understandings have to be

The repertoire of children of different ages.

constantly modified, and extended or cut down as his experiences increase. His first associations are apt to be exceedingly partial; and relatively unimportant and irrelevant characteristics of objects which are often before the attention when the word is learned are seized upon and accepted as the meaning of the word in question. Miss Shinn¹ says that her eleven-months-old niece "securely" understood fifty-one names of people and things, and twenty-eight action words. Humphreys,² too, says that when his child was eight months old "she knew *by name* every one in the house, most of the objects in her room, and the parts of the body, especially of the face. She also understood simple sentences, such as "where is the fire?" etc. Now, it seems improbable, to say the least, that so many words, as pure conventional symbols, could be correctly interpreted. It is more likely that the cue to the meaning of most of the words was gained from gesture, tone of voice, and facial expression. Again, some of Trettien's correspondents³ say their children understood, as early as the eighteenth week, such expressions as "where's papa?" But the only word understood probably is "papa." The child will "look about" just as readily for "papa" as for "where's papa?" Indeed, it is probable that a four-months-old child would "look around" in response to any word uttered with all the pre-

¹ *Op. cit.*, p. 236.

² See *Trans. Am. Phil. Assn.*, 1880, p. 8.

³ See his "Psychology of the Language Interest of Children," *Ped. Sem.*, June, 1904, Vol. XI, pp. 113-177. Also Reprint, p. 16.

cise expressive accompaniments attending the use of "papa." At any rate, whatever may be true in respect to the term "papa," it seems certain that comprehension of "where's" as a distinct symbol is a matter of long, very long, experience in differentiation and specialization of association; and the principle is universal in its application.

The principles developed in this chapter respecting the child's early reaction upon conventional language may be stated in brief as follows: — **Summary.**

1. Nature has endowed the child with a strong tendency toward spontaneous vocal activity, or voice play. This is revealed in his incessant babbling in the early months.

2. This spontaneous vocal activity prepares the way for voluntary speech later on. In his voice play the child practises most of the sounds he will be called upon to make later on, but he does not execute them in the sequences presented in the conventional forms used in his environment.

3. At first the child pays no heed to the particular verbal combinations employed about him; but by the close of the first year he shows that he is becoming attentive to linguistic forms. He makes an effort to reproduce the fundamental elements of the simplest words he hears that relate to the most concrete and vital of his experiences. He early discovers that advantages of various sorts flow from the use of conventional forms (though he does not know they are conventional), and this leads in due course to his imitating these forms purposefully.

4. The year-old child can use only a few conventional words, — not more than twenty-five at the outside, probably, —

and most of these are mutilated, so that only the parents or nurse can recognize them. The child of this age employs some words which he used first in a spontaneous way, and the people about him conventionalized them, and established them for the time being in his vocabulary.

5. The child's first verbal imitations are concerned primarily with the motor processes, of the lips primarily, required to make words, or to perform actions with reference to objects.

6. Linguistic invention should be distinguished from voice play. The latter is an end in itself, while in invention the child deliberately constructs novel combinations for the purpose of communication, when the conventional language will not meet his need.

7. Children seem always to find pleasure in playing with words to see in how many ways they can execute them; but this is hardly linguistic invention.

8. It is probable that children but rarely invent a system of linguistic symbols.

9. The mother's first words to her child are expressions wholly of emotional states, and he gets his cue as to meaning from her intonation and the like, and not at all from the mere words as symbols. But as a result of association and abridgment, the word comes in time to have the power of reinstating the feelings and reactions which were originally aroused in other ways. According to the same fundamental process the child gains an understanding of words that denote objects and situations in general.

10. The year-old child understands but few words as symbols, and these always relate to concrete objects with which he has had vital experience. These words are probably never understood in their full and precise meaning at the outset.

CHAPTER III

PARTS OF SPEECH IN EARLY LINGUISTIC DEVELOPMENT

I. Sentence-words

A NUMBER of students of infant linguistics, as Holden,¹ Humphreys,² Tracy,³ *et al.*, have endeavored to determine the relative frequency of the several parts of speech in the child's language during successive periods in his early linguistic development. They have made lists of all the words spoken by a number of children between the ages of fifteen months and three years approximately, classifying them according to the standard grammatical categories. Following this method of treatment, Tracy has calculated that of five thousand four hundred words employed by twelve children from nineteen to thirty months of age, and reported by several investigators, 60 per cent are nouns, 20 per cent are verbs, 9 per cent are adjectives, 5 per cent are adverbs, 2 per cent are prepositions, 1.7 per cent are interjections, and 0.3 per cent are conjunctions.

Methods of
classifying
the child's
vocabulary.

¹ On the "Vocabularies of Children of Two Years of Age," *Trans. Am. Phil. Assn.*, 1877, p. 58 *et seq.*

² "A Contribution to Infantile Linguistics," *Trans. Am. Phil. Assn.*, 1880, p. 5 *et seq.*

³ "Psychology of Childhood," Chap. V.

Now, it will be apparent upon a little reflection that this method of treating the child's vocabulary is external and formal. The classification is based upon the structure of words regarded *ab extra*, rather than upon their function in expression. Tracy, and all who use his method, take a logical or grammatical, not a psychological, point of view. To illustrate the principle in question, when K., at eleven months, says *hă* (hat), she always sees the object and thrusts her arms toward it, indicating plainly enough that she wishes to reach it. The word is uttered in an impulsive, or perhaps interjectional way; and all her expressions show that she has active desires with reference to the thing designated. She is not simply naming it in a static, or purely denotative manner. Looked at from this standpoint, the word is seen to be more than a mere noun in grammatical usage; it does duty for an entire sentence in a highly generalized form.¹ It is the "undifferentiated linguistic protoplasm" out of which in due course various sentential organs and members will make their appearance, according to some such general method of differentiation, possibly, as a complex animal organism, as the chick, for instance,

¹ See, among others, Sully, "Studies in Childhood," p. 171; Lukens, "Preliminary Report on the Learning of Language," *Ped. Sem.*, Vol. III, pp. 453-455; Dewey, "The Psychology of Infant Language," *Psych. Rev.*, Vol. I, pp. 63-66; Egger, *Observations et reflexions sur le developpement de l'intelligence et du langage chez les enfants*, Paris, 1877; H. Ament, *Die Entwicklung von Sprechen und Denken beim Kinde* (Leipzig, 1899), p. 163; Meumann, *Die Entstehung der ersten Wortbedeutungen beim Kinde* (Leipzig, 1902), p. 31.

evolves from the undifferentiated germ-cell contained in the egg. So far as one can tell, K. employs her word *hă* (and this is typical of all the words she uses at eleven months), to convey such a notion, as, "I want that hat"; or "take me to the hat"; or "I want to put that hat on." It is probable that her attitude is not expressed by "see that hat" merely, for she is exceedingly dynamic with reference to it. She is not content to look at it simply, or to induce me to look at it; she desires to do something with it, and her modes of expression are calculated to affect me so that I will aid her in attaining her ends. It seems, again, that she does not have the attitude indicated by "May I have the hat?" or "I wish I could have the hat," for she does not yet recognize clearly any power or authority to which she must thus appeal in realizing her desires. She is not pleading; she is demanding or commanding. But the special point to be impressed is that her word *hă* denotes more than a mere substantive relation with the object; it denotes, in a general way, of course, all that can be indicated, though in a more particular and definite manner, by the grammatical elements which in adult analytic speech we designate as noun, verb, adjective, pronoun, and preposition.

Sometimes the adult reverts to the infantile method of linguistic expression, and makes single words do for sentences. For instance, he says "hat?" to the waiter in the restaurant, at the same time looking up at the object which

Sentence words in adult and primitive speech.

hangs where he cannot get it, and intoning in a special manner. This single word, used in this peculiar situation, and supplemented by gesture and characteristic vocal modulation, discharges the function of an entire sentence. The psychology of the matter is clear enough; the waiter has learned from previous experience that such a tone of voice and such a pose always denote a need, and the one word particularizes the need. The notions expressed in conventional language by "I want my" may be indicated plainly by appropriate motor attitudes; indeed, these attitudes can in such a case express the whole thought without the use of any word. If the situations we encountered in life were never more complex than in this instance, it is probable that man would not have invented parts of speech. Primitive races, as Romanes,¹ Whitney,² Sayce,³ Müller,⁴ Powell,⁵ Brinton,⁶ Bosanquet,⁷ and other students of primitive languages have pointed out, get along with single-word sentences. It seems to be well established that linguistic evolution on the phylogenetic side has proceeded by continual differentiation of primi-

¹ "Mental Evolution in Man," p. 294.

² See the *Encyclopædia Britannica*, 9th edition, Vol. XVIII, pp. 766-722, article on "Philology."

³ *Ibid.*, Vol. XI, pp. 37-43, article on "Grammar."

⁴ See his "Science of Thought."

⁵ See, among others of his writings, his essay on the "Evolution of Language," *Trans. of the Anthr. Soc. of Washington*, 1880, pp. 35-54.

⁶ "Essays of an Americanist," p. 403 *et seq.*

⁷ "Essentials of Logic," pp. 82-86.

tive sentence words, this differentiation resulting in complex languages in parts of speech, and in their varied inflected forms.¹ So the infant's expression, on the verbal side, is a highly undifferentiated one; and the process of development consists, for one thing, in continuous differentiation. This method of development — continual differentiation with specialization of function — has universal validity in mental ontogeny, holding as well for linguistic as for other activities.

It is apparent why, classifying the child's vocabulary *ab extra*, we find that three-fifths of his words are nouns, the names of things, as Mrs. Moore,² Mrs. Hall,³ Kirkpatrick,⁴ and others maintain. We tend to overlook the pronominal, verbal, adjectival, adverbial, prepositional, and conjunctive function of the first words; as I have intimated, we unconsciously infer this function from the child's attitudes, gestures, facial expressions, intonation, and so on, and we disregard the part the interpreter plays

Gram-
matical
function
performed
by gesture,
etc.

¹ LeFevre (see his "Race and Language," p. 42) has attempted to show that in phylogenesis all the grammatical categories have developed from the primitive cry. The cry of animals, even, contains the roots of human speech. There is the cry of need which gives rise in time to our interjection, and later to the elements of the sentence. The warning or summoning cry in turn gives rise to our demonstrative roots, and is the origin of the names of numbers, sex, and distance.

² "The Mental Development of a Child," *Psych. Rev.*, 1896 (Monograph, Supplement No. 3).

³ "First Five Hundred Days of a Child's Life," *Child Study Monthly*, Vol. II, p. 607 (March, 1897).

⁴ "Fundamentals of Child Study," p. 236.

in reacting upon infant speech. But viewed from the standpoint of the child's use of his words in his adjustments, it is evident that they are never at the outset merely nominal in function.¹

Mrs. Hall thinks objects are at first apprehended as wholes, without regard to their qualities or their action, but this seems extremely doubtful. It appears rather that the *qualities* of any object, as food, for instance, which determine what use he can make of it, will be uppermost in the child's consciousness in his reactions upon it; and in naming it at any time he will really, so far as his own mental content is concerned, be designating these qualities of the thing and not the thing in itself, whatever this may be. To illustrate, S. at twelve months liked buttered zwieback, and whenever he saw any on the table he would call out *bock, bock*, though he did not care for the plain variety. Surely his reaction must have been incited by and had reference to the peculiar gustatory quality of this special article. Indeed, the child's mental states must usually, if not always, be concerned primarily with the sensory and kinæsthetic values of objects, which would occasion a predominant adjectival attitude toward them. As we shall see presently, in the course of development one's experience with anything will gradually become generalized into what we mean by the term "object";

¹ Compare with this statement Dewey's view, "Psychology of Infant Language," *Psych. Rev.*, I, pp. 63-66.

and then when he refers to it he will have a feeling first for this generalized something which he may designate, and then go on to specify certain particular experiences he has had or should like to have with it.¹

But the young child's attitude toward things must always be determined in view of qualitative, rather than merely nominative attributes; and at the outset the actional condition of a thing is regarded as but one of its attributes.

The child's
attitude
toward
things at
first.

When H. at nine months sees the kitten running after the ball, or her father taking gymnastic exercise, to illustrate, she indicates plainly that her interest is in the action of the thing she notices. At this early age she does not, of course, abstract the action from the object and regard it as a thing apart; but she is affected differently by the object when it is at rest from what she is when it is in motion. Her feeling for action as an individual something develops gradually as a generalization of a large number of experiences, wherein particular objects are seen executing a variety of activities. This results in establishing the conception, or the feeling, that there is in an object something over and above that which is displayed in any of its activities. In this general manner object, action, and quality are differentiated, at least in feeling; and our analytic language aids the child

¹ I do not mean that we can form a notion of a thing apart from any of its qualities, states, or actions, but nevertheless with repeated experience with an object we seem to gain a sense of its existence independent of any particular quality, state, or action. Doubtless this sense is in some part verbal, but it is more than verbal.

in making the differentiation. The effort to employ differentiated speech imitatively assists in the definition of elements in the child's original undifferentiated ideas.

2. Nominal and Verbal Function

Substantive
and predi-
cate func-
tion undif-
ferentiated
at first.

It is probable, as already intimated, that the child's early interests centre entirely in things as qualitative and dynamic; and, confining our attention here to the development of nominal and verbal function, we have seen that it is only through the gradual establishment of certain feelings of uniformity in a vast body of varied experiences that the individual comes to feel any object as distinct from its qualitative and dynamic aspects. So that in the young child's consciousness noun and verb, viewing the matter functionally, cannot exist independently; the use of substantive terms, speaking grammatically, always implies predicative characteristics. When the child makes his own terms, they always denote objects acting; just as do individual terms in primitive languages. Only in our own analytic adult language, which has been slowly developed to express intricate and highly differentiated intellectual content, are substantive and predicate function more or less completely differentiated. Now, when the child mechanically imitates the forms of this highly differentiated language, some persons say that he must have back of them the same differentiated thought that the adult has, but in this assumption they certainly go wide of the mark.

In illustration of this point, take a case like the following: I give K. the term "runs" for her brother cutting across the lawn. I repeat it on several occasions, and I find that soon she will point to the brother running, and exclaim, *uns!* What is the mental content back of such an expression? Manifestly her consciousness is engaged with this object in certain continually changing attitudes; but, as intimated above, as her experiences with her brother and other objects running increases, she will tend to feel the significance of the activity of running apart from any concrete or particular embodiment. But these same objects present themselves from time to time under other and different conditions, each of which will, in due course, come to have a degree of individual reality. Then, in order to express any particular characteristic of an object, the child gradually comes to feel that he must first designate the objects without reference to any special attribute; and then he must have some means of designating the precise condition or attribute which is now in consciousness. If these objects always appeared in the same rôle, if he was always affected in the same way by them, the child would not need to have one term for substantive and another for predicate in describing his experience with them; a single term would serve adequately as noun and as verb, and also, it may be added, as modifiers.

It has been said by several observers that, viewed *ab extra*, the child's nearest approach to the use of the noun

The function of the exclamation.

pure and simple is found in those expressions which, from one point of view, may be regarded as exclamations or interjections. To illustrate, S. hears a barking dog at a distance, and he exclaims *bu! bu!* (dog). He makes no effort to get the object, or to get away from it. His eyes, his intonations, his bodily attitudes, all show surprise and wonder, however, but with no tendency to definite action. Now, in this expression is he simply *naming* an object — either the dog, or the barking as an independent auditory thing? The strict nominal attitude is a static one, and while in this case reaction is held in check for the time being, nevertheless the individual is in a dynamic attitude toward the object. He is on the *qui vive* to detect what should be done in reference to it. If one should attempt to express the child's attitude in a sentence, it would probably be something like this: "That's the dog; should I run to mother?" "What's that noise? Should I call some one to protect me?" The point is that the child's exclamation is the expression of much more than a simple nominal attitude toward an object. It should be added that, as development proceeds, the individual normally falls into a more and more static relation toward many familiar objects, and so in his linguistic reaction he may reach the point where he can simply designate them; that is, he can employ the substantive in its grammatical function strictly. Again, a child early finds pleasure in the ability to recognize and name objects, as Groos has pointed out, and he

always wishes to have others share his achievements with him; so he may, and probably does, often employ his words for the purpose of winning applause, rather than imparting an idea by predicating anything about an object. That is, he uses his terms in a simple, denotative way, without attempting to express his experience with the objects denoted.

Before the completion of the second year, usually, and in some cases as early as the eighteenth month, the child begins to express himself in elliptical sentences, as, giving two of H.'s expressions, "doggie-high" (the dog is jumping over a high fence); "Nann-come" (I want Anna to come and help me). Now, are the expressions, of which these are typical, an indication of that complexity of mental process which we are making the basis of true differentiation in speech? Viewed from without, they appear to be; but in reality they seem often to be mere mechanical imitations, with no subjective differentiation to correspond to the external, differentiated form. I have often said "doggie-high" to H., and she may be, and probably at the outset is, just copying my words. In her own consciousness there may be but little more differentiation with respect to this particular situation than when she employed the single word "doggie" in reaction thereupon. Children from a year and a half on for a number of months constantly illustrate this principle in their speech. They learn, as an auditory and vocal unity, an expression like

Imitation of
differentiated
speech
without
differentiation
in
thought.

“birdies fly,” and they use it not only when they see a bird flying, but also when it is sitting on a limb or picking worms from the ground. That is to say, the term *fly*, when first used, may not denote a clear and definite particularization in mental function; and it will not carry true verbal function until the child employs it for the purpose of describing a particular aspect or attitude of birds and other objects, and which he can and does distinguish from other attitudes or aspects.

The principle is that such an expression as “birdie fly” in the child’s speech may be regarded as a single term capable of describing a bird in a variety of attitudes. The child is not aware that he is using a substantive and a predicate; he imitates as a unity,¹ an expression which in adult speech denotes differentiation in feeling at least of object from action. The only way we can tell for sure when substantive and predicate have become differentiated in the child’s speech is when he uses them appropriately in situations where he could not have imitated them just as he employs them; as when, dropping some bits of paper

¹ Preyer observed his son Axel at twenty-seven months saying *mage-nicht* (*mag es nicht*) and *tannenicht* (*kann es nicht*). Any observer may notice the same phenomenon, and often quite late in linguistic development, after the child has been in school for several years.

Professor Bagley, in a private note, says: “My own girl at the age of thirty months used the term ‘Tanobijeu’ whenever she wished her younger brother to get out of her way. After studying over the matter, we finally discovered that she had caught up and shortened a phrase that some older children had used — ‘Tend to your own business.’”

over the hot-air register, he sees them sail upwards and exclaims, "paper fly." Here action is apprehended apart from the special thing with which it was originally connected, and a beginning is made in regarding it as a characteristic that may be possessed by many different things. In due course "flying" or "to fly" will denote a certain thing felt as having reality apart from objects as such. The same may be said of "running," "jumping," "shouting," and so on *ad libitum*.

The prominence which some grammarians ascribe to the verb in linguistic expression may warrant its receiving a little special attention at this point. Before the twenty-fourth month, as a rule, the child uses sentences of two or three words, but the verb is quite often omitted, and from my observations I should say that the novice can get along very handily without it. To illustrate: K. at twenty-five months will say, "Mamma — milk" (Mamma, I want my milk; or, Mamma, have my milk brought in). Taking my glasses in her hand, she will say, "Baby — nose" (I want to put them on my nose). Watching her nurse prepare her bath, she will repeat many times, "Baby — bath." One may count instances of this kind literally by the hundred every day in the life of an active child, from his second to his third or fourth birthday. The copula is quite generally omitted in the beginning. A three-year-old will say, "My — (or *me* or perhaps *I*) hammering;" (I am hammering); "Me — running;" "Me — playing

Omission of
the copula
in early
sentence
construc-
tion.

horse," and so on *ad libitum*. So he will ask, "Where — papa going?" "Where — papa been?" "Where — my book?" "My dog — running?" and so on. Helen Keller says in her autobiography that when she was seven she used such expressions as these: "Eyes — shut; sleep — no" ("Their eyes are shut" — speaking of puppies — "but they are not asleep"), "Strawberries — very good," and so on.

It is not difficult to understand why the child should thus do violence to the sentence forms of our speech. He can convey his limited range of thought adequately without the copula; being an adept at gesture and intonation, he can make these latter discharge the office of the former. His expressions always relate to very definite, concrete experiences, within the range of vision of himself and his auditors, so that he can make himself understood even with an imperfect handling of our linguistic tools. But when he comes to treat of more remote and abstract situations, where most details of the idea to be conveyed must be suggested by symbols instead of by gesture, then he will feel the need of having command of a larger stock of linguistic aids, and of employing them in a precise conventional manner, else he cannot make himself intelligible.

So far as actual need is concerned, the child could doubtless go on for a long distance, say up to the sixth or seventh year, ordinarily, neglecting the verb, and particularly the copula in his sentences; but with the logical forms

of the adult constantly ringing in his ears he comes to adopt them as a matter of convention at the outset, and not because he feels they are of special service to him. The parent and governess and teacher are incessantly putting the standard forms before the novice and forcing them upon his attention, and as a consequence he abandons his own original, abbreviated, gesture-symbol forms, and takes up with the conventional models. Just observe a child saying, for instance, "Doggie — high" (the dog jumps, or is jumping, over a high fence), and notice the parent repeating after him, "Doggie jumps high," and asking the child to follow him. This is going on incessantly in the first years of language learning; if the parent is not dictating conventional forms, then the brothers and sisters and playmates are. The conventional forms are flying about the child all the time, even though the speakers are unconscious of his presence, and it is inevitable that he should in time come to imitate these forms in a more or less mechanical way. So he is not let alone to do as he chooses linguistically; the social milieu resorts to various devices to get him to abandon his primitive linguistic forms before he feels the need of anything better. Not only are the standard usages constantly thrust upon him by all charged with his care and culture, but the people around him make generous use of ridicule to hasten his progress in adopting the standard modes. Observe an eight-year-old boy making fun of his three-year-old brother for some of his

childish phrases, and the importance of this force in urging the child to abandon his original expressions, though they serve him well enough, will be appreciated.

3. Interjectional¹ Function

Thus far mention has been made only of nominal and verbal function in the child's earliest sentence-making. It might have been better to have begun with the interjection, since this, viewed from one standpoint, is the first part of speech to appear. It may be observed, however, that Meiklejohn² and others say the interjection is no real part of the language, since it does not enter into the organism of the sentence. But the students of infantile linguistics have retained the interjection as a part of speech; and, according to Tracy's summary, the vocabulary of the average child of about two years contains less than 2 per cent of interjections. Salisbury³ maintains that in the vocabulary of his child at thirty-two months there were only five interjections out of a total of six hundred forty-two words. The table given by Kirkpatrick⁴ shows about the same phenomena as Salisbury's. Now, these classifica-

¹ I do not here distinguish between interjectional and exclamatory function, though in strict grammatical treatment this should doubtless be done. Professor Owen makes this distinction: the interjection is a sentence element, though it is not strictly a part of the sentence. The exclamation may be expressionally self-sufficient.

² See his "English Language," Part I, p. 60.

³ *Educational Review*, Vol. VII, pp. 287-290.

⁴ See his "The Fundamentals of Child Study," p. 236.

tions are made strictly *ab extra*, according to the formal grammatical categories. But, regarding the matter psychologically, there is an interjectional element in most of the child's early words, as Mrs. Hall¹ appears to have observed, for she noticed that the language of her child from the two hundred thirty-third to the three hundred fourteenth day was an "interjectional onomatopoetic race language."

The principle in question may be illustrated by citing B.'s use of *kee* (kitty). Whenever he uttered it, in the beginning, there was always something of the "Oh!" quality about it. The kitten was for some weeks a fresh surprise every time he beheld it, and he used his word with much feeling. He might with propriety have used "Oh!" in place of *kee*. One who observes a child as he learns new objects cannot escape the conviction that his expressions all have, for a time at least, an interjectional element. It is interesting to note in this connection that anthropologists, as Aston,² *e.g.*, maintain that human speech originated in certain natural cries,—hisses, shouts, grunts,³—and these in time became interjections. Interjections were in the beginning, then, the only parts of speech; all others were included in them. Whether this position can

The interjectional element in much of the child's speech.

¹ *Op. cit.*, p. 601.

² See the *London Journ. Anthr. Inst.*, Vol. XXIII, pp. 332-362.

³ When gesture is relied upon largely in expression it is necessary to have some means of attracting attention, and then the rest can be done by hands, face, and body. Hence the prominence of grunts, cries, etc., in the speech of children and primitive people.

be defended or not, it is at least evident that interjectional speech comes very easy to the young, and it is prominent up until the adolescent period. One may hear children (boys especially, I think) from five to twelve incessantly using expletives such as *Gee Whiz!* *Giminy Crickets!* and so on through a long list. They are all employed, it seems, in expression of strong feeling, or to emphasize an idea put forward first in conventional fashion; it is possible that the fondness of boys for the use of "strong" language in their conversation may be explained by this principle. The child's attitude is usually in some measure interjectional, even if he does not use the particular forms recognized by formal grammar. He can use "horse" with interjectional function about as readily and effectively as "Oh !" or "Whew !" or "Hurrah !" In the course of development this exclamatory or interjectional coloring of the child's language gradually declines, after the age of seven or eight, say, so far as ordinary speech is concerned, though throughout the whole period of childhood, and to a less extent during youth, interjectional function is much in evidence. As intellection increases, interjectional activities decrease. Thus one result of development is gradually to confine interjectional function to the conventional terms.¹

¹ Professor Bagley suggests that the interjection is an instance of the undifferentiated sentence-word functioning after the sentence has become organized.

CHAPTER IV

PARTS OF SPEECH IN EARLY LINGUISTIC ACTIVITY

(*Concluded*)

1. Adjectival and Adverbial Function

LET us glance for a moment now at the place of qualifying and particularizing terms in early linguistic activity. The term "modifier" suggests differentiation in mental content, and we should not expect to find limiting terms and phrases employed, intelligently, at any rate, until the child's thought had attained a considerable degree of complexity, so that he would feel the need of some particularization in his expression. Of course, his appreciation of particular properties of objects is implicit in his reactions upon them — in his attitude toward his kitten, for instance — long before he employs qualifying terms. He shows that he regards his kitten as "nice," for illustration; but still the notion of *niceness* as a general attribute of things is not yet differentiated. Two processes must go on *pari passu* in order that the child may feel the need of terms to function as modifiers. For one thing, there must take place continual differentiation in the mass of impressions which are received from any particular object; and then there

Require-
ments for
the cor-
rect use of
the "modi-
fier."

must be generalization of similar experiences with objects, giving types of experience which may each be designated by modifiers, and attached to objects according to the type of experience which they yield.

Of course, qualifying terms may very early be used which have the outward aspect of modifiers, but inwardly they do not function as such. They are the resultants of mere mechanical imitation. Take, for example, H. who at two and a half years would say, when running to greet her father returning to the house, "*nice* papa." She had been taught this formula, and it probably was the expression of no different mental content from when she said "papa" simply. So she would ask for a "*nice* story"; but what she wanted was *a* story, not some special kind of a story — a *nice* as distinguished from some other kind of a story that she had heard; she did not employ *nice* as a particularizing term. Again, I say in the presence of S. at nineteen months, "nice mamma," at the same time stroking her hair. He imitates my action and my words, but manifestly he uses both words as a single term. Doubtless the stroking suggests to him some of the mother's special qualities denoted by *nice*, but even so, his conception must be extremely dim and undefined.

The development of particularizing function.

The principle is that at the outset the child views the kitten, to keep to our illustration, in a certain very concrete, totalized way, without differentiating the notions of niceness, of gentleness, of playfulness, and so on. But

as experiences with the kitten and other domestic animals (including human beings, possibly) increase, these ideas gradually gain a certain degree of individuality. The attribute denoted by *nice*, for instance, is, of course, always experienced in connection with some definite thing; but as the number and variety of such things are augmented, the characteristic of affording pleasure of a special sort, to which is attached the conventional symbol *nice*, being common to all, it acquires a kind of reality and importance of its own, although it is impossible to tell how far this goes in any special case. When this stage of particularization is reached, the child can begin to use the modifier in an intelligent manner. He can say, "I have a *nice* doggie," and the adjective will indicate that a particular characteristic of his dog has come to clear consciousness in his reactions. As evidence that he appreciates the quality as such, he can apply the term appropriately in reference to other objects, where he could not mechanically have imitated its use. *Nice*, then, has become a true particularizing term; and the principle is universal in its application to the natural history of all modifiers appearing in the child's vocabulary.

It is apparent that a term like the one in question is incessantly changing in respect alike to its precise content and to the range of its application. As development proceeds, extensions are made in one direction, and excisions in another. Experience is constantly operating on the

term, and the transformations it undergoes depend upon the peculiar character of the experiences. Here is a home in which the children hear the term applied frequently under a variety of circumstances; both physical and ethical situations are described by it. But here, again, is a home in which the term is used infrequently; the members of the family rarely assume the attitudes toward their environments denoted by this term. The children from these two homes will have quite different "apperception masses" for the employment of this adjective; and the principle applies to the developmental history of all qualifying terms.¹

The ad-
jectives
earliest
used.

It may sound commonplace to say that the adjectives which are earliest used relate to the impressive characteristics (depending upon the child's peculiar experience) of the objects with which he has direct, vital relations. Special qualities of different articles of food are among the very first to become differentiated and designated by separate terms,² so that the adjectives appearing first in the vocabulary, in a mutilated form, of course, are such as "nice," "sweet," "bad," "hot," "good," "cold," and the like. Some of the terms descriptive of the child's experience with food, as "nice," "good," etc., apply also to experiences in other situations, and it happens that these

¹ I discuss this matter in detail in Chap. VI.

² It will be granted, of course, that long before the child uses conventional terms to denote the qualities of food, for example, he indicates his appreciation by gesture and facial expression, with characteristic interjectional expression of rich variety and complexity.

special terms become more prominent than any others. Large as well as noticeably small objects early catch the child's attention, and the adults in his environment intensify his natural tendency in this respect by putting stress upon large or tiny things in stories, and in all representations and descriptions of the child's surroundings. So "big," "great," "awful," and the like, early acquire prominence in his vocabulary, as do "little," "small," "tiny," and similar terms. So if one should go through with all the types of experience of the child at different stages of his evolution, he would find that intelligent adjectival function depends directly upon the degree to which particular attributes of objects become differentiated from their general characteristics because of the new relations which the individual, as an inevitable consequence of his development, comes gradually to assume toward them, and also because of the attributes which the social environment keeps urging upon his attention.

Terms denoting abstract moral qualities in things appear in the vocabulary last of all, even when such terms are imitated in a mechanical way.¹ It is quite impossible to tell what is the precise extent and content of an abstract term as the child employs it at different stages in its develop-

¹ All observers of child linguistics give instances in illustration of this principle; but see Chamberlain (*Ped. Sem.*, Vol. XI, p. 278). His child, in her third year, used the word "sinecure" without the slightest idea of what it meant. See also Hall, "The Contents of Children's Minds on entering School." (Heath & Co., Boston.)

mental history; but still the evidence all indicates that complex moral qualities are not appreciated until relatively late in development, so that the terms designating them are not intelligently employed until the last stages of maturing. This is not to say that adjectives denoting moral qualities in adult speech are never early used with moral significance; indeed, such terms as "good," "bad," "horrid," "ugly," "mean," "nice," "naughty," and the like, are applied to persons as well as things as early as the third year. But they are always used in a very concrete, even physical way. The young child has had some unhappy *physical* experience with his playmate, and he calls him "bad," or "ugly," or "mean," or "horrid"; but as he develops he will normally come to use these terms to denote more and more general social and ethical attitudes of persons; to designate "qualities of heart," as well as, or perhaps rather than, more muscular traits.

In her ninth year, H., who had been much read to, and who had herself at that time read quite a number of books of fairy tales, fables, myths, and nature stories, and even a few novels which her parents were reading — with this linguistic experience, she occasionally used in her conversation such a term as "excellent" or "genuine." She would say, speaking of a character in one of her books, he was an "amiable" or "genial" or "excellent" person. Now, when I would test her understanding of one

of these terms, I would find usually that she had in mind some definite act described in one of her books, and she had remembered this term as applied to the particular character in question, and had seized upon it without any adequate notion of its true significance, which would be apparent when I would ask her to apply such a term to one of her playmates. At the age of ten she has only a very general and quite incomplete conception of the characteristics denoted by "honorable," say. It will require the experiences of many more years before she can react to or employ this term with a sense of its true and varied significance, as this has been determined by a long process of racial development. In the making of the term in phylogenesis, some such stages have been passed through, in growing from concrete and material to ever more general and ethical reference, as the child passes through in his acquiring the ability to employ it correctly and efficiently to connote ethical quality.

What has been said of the development of adjectival function applies practically without modification to the development of adverbial function. The only word needing to be added here is that the adverb appears considerably later than the adjective, and even when learned it is used less frequently, as all children's vocabularies indicate. According to the observations of the writer, the term earliest used adverbially is one denoting place,—*here* in "here I am." *There* and *where* are used early also.

The development of adverbial function.

Mrs. Moore ¹ thinks these antedate all parts of speech except interjections and nouns. But, unless under exceptional conditions, it is probable that with the possible exception of "here," "up," "down," "there," and "when," they appear later than the more concrete adjectives relating to quality of food and prominent characteristics of dogs, playthings,² etc. As we might expect, adverbial function at the outset is confined to the immediate, concrete, physical experiences of the child, and relate to time and place principally. S., in his fifteenth month, being on the second floor of the house and in his father's arms, points to the stairs, at the same time urging his body in that direction, and says, *dow* (down). So he will point to objects and say *dā* (there), *uh* (up), and *hē* (here). "More," "out," "now," "where," "away," and possibly two or three other adverbs, are found in the vocabularies of children before the close of the second year, though they may not at the outset be used with precision, according to the traditional standards.

2. Prepositional and Conjunctional Function

The absence of connective terms in the child's speech.

From what has been said in previous sections, it must be apparent now that the part played by connective terms in adult speech is carried to a large extent by gesture in child linguistics. Connective function is almost wholly lacking

¹ *Op. cit.*, p. 129.

² Cf. Hall, *op. cit.*, pp. 604-606.

in the young child's expression, probably because his mental content is not sufficiently differentiated and complex to really require relational terms in its expression. At any rate, he can get on for some time very well without them. When a child of seventeen months says, "My — go — snow" (I want to go out in the snow), and a little later when he comes in exclaiming, "My — come — snow" (I am coming from the snow) — he is not focally aware of the difference between going *to* the snow and coming *from* it. In the mental content of the moment, *snow* occupies the all-important place; his attention is filled with his experience in the snow. In the first instance, he longs to have these experiences repeated, and his sentence, "My — go — snow," will reveal his desires completely and definitely to his caretaker. In the second instance, his "My — come — snow" also meets the needs of definite expression; here his impulses concern the imparting of his experiences to his caretaker, and these experiences do not include, prominently, at any rate, the relation expressed by the preposition as functioning in adult speech. The verbs "go" and "come," used in this special connection, discharge prepositional function, in a general way, at least, a principle exhibited in all primitive language, according to Müller, Sayce, Powell, Romanes, and others; and further, with the child's relatively undifferentiated experience, and with his facility in gesture, as suggested above, he may readily convey his notions without prepositional

terms.¹ Only very slowly do such terms as "upon," "through," "over," "beyond," "among," etc., come to occupy a place in the child's vocabulary. This is due, doubtless, to the fact that at first his thought is of *things* with their attributes, and not of the *relations* between them. However, as experience becomes ever more complex, relations come to be ever more strongly felt; and as there develops an urgent need to express precisely experiences involving relations of the sort indicated, then these prepositions begin to find their way into the child's speech. It may be added by way of qualification that the imitative tendencies of the child lead him often to use connective terms before he feels the need of them; but it is probable that such terms are not imitated as readily as those relating to the more concrete facts of experience.

The emergence of prepositional elements.

One cannot easily detect the emergence of prepositional elements in early speech. Their individuality is at first not at all marked or distinct. It is as though they were still a part of the organism in which they were originally imbedded. H., at nineteen months, says, as a typical expression, "Papa — go — ŭ — University," the *ŭ* here being evidently a mutilated form of the preposition "to." At the outset it was lacking altogether; but by the twenty-sixth month it had become differentiated completely from the

¹ Dearborn, in his "The Psychology of Reading," p. 84, says that connective words made the greatest demand upon perception in his experiments upon reading pauses.

verb. We catch it here in the nineteenth month in its embryonic form; and so far as I have observed, all prepositions have a somewhat similar history, which seems to be much the same in principle in phylogenesis as in ontogenesis. Powell,¹ commenting on prepositional function in the Indian language, maintains that prepositions are often intransitive verbs. When an Indian says, "That hat table on," we are to consider the "on" as an intransitive verb which may be conjugated. "Prepositions may often be found as particles incorporated as verbs; and still further, verbs may contain within themselves prepositional meanings without ever being able to trace such meanings to any definite particles within the verb. . . . Prepositions may be prefixed, infix, or suffixed to nouns; *i.e.* they may be particles incorporated in nouns."

In some children's vocabularies "up" and "down" are given as about the first prepositions to appear, and they are said to be used properly by the eighteenth month or so. The child says, "upstairs" (I want to go upstairs) and "downstairs." Now, one who will carefully observe the early use of these words, cannot fail to detect that they are not employed with exclusive prepositional meaning. In the beginning, the child says "up," and makes this expression definite by extending his arms upward, by straining upward with his body, by looking upward, and by so employing his voice as to leave no doubt respecting his de-

Gram-
matical *vs.*
psychologi-
cal func-
tion in the
use of prepo-
sitions.

¹ *Op. cit.*, p. 46.

sires. His word really seems to denote the *place* he wishes to reach, and the *method* of reaching it, although neither of these elements is focal in attention, as we can imagine they might be in the case of an adult who sat down and reflected upon getting upstairs. The child's consciousness might be said to be motor as well as ideal when he is expressing himself in this way. The word is just one phase of a complex ideal and motor attitude, and it is impossible that it should be used with strict prepositional value. Before this word can be employed as a preposition merely, a number of other words will need to be used intelligently with it in the sentence, each to carry phases of the meaning which it now carries alone.

In her twelfth month, K. would throw objects from her high-chair to the floor, and would exclaim, "down!" This term seemed to denote mainly the racket made by the objects when they struck the floor. Prepositional relation was surely not a prominent element in the child's consciousness on such occasions. A little later she would take the object in her hand, and at the moment of releasing it she would exclaim, "down!" and blink, evidently anticipating the noise to follow, which was the thing dominant in consciousness. Later on she would use the term when she wished to get out of her high-chair, but here also it had much more than prepositional meaning. Her consciousness could be expressed in adult language by the following, perhaps: "Unfasten me, so that I can get down on

the floor and play." It is improbable that the child uses such words as "up" or "down" with strict prepositional meaning, or adverbial meaning either, before his third year, and I should prefer to make it a year later. In the fourth year one may hear expressions like the following: "I am going *down* the street," "I climbed *up* the stairs," etc., in which we doubtless have examples of genuine prepositional function. The original terms "up" and "down" have persisted, but much of their early meaning has been drawn off from them and loaded on to other terms in the sentence; and this, in principle, is the history of such prepositions as "on," "in," etc.

It should be pointed out that there are prepositions which are not used except with prepositional meaning pure and simple. They describe relations which the child does not apprehend until he has made good headway in differentiating the parts of speech and constructing the sentence. Before such terms as "toward," "among," "against," "notwithstanding," and the like are employed, he has abandoned his primordial sentence-words, and in their places he uses constructions with substantive, predicate, and modifiers, so that any one term now discharges special, differentiated function. When S., in his fourth year, says, "I threw it *toward* the house," he shows that he has reached the prepositional plane, so to speak, in linguistic development. It may be added that the principle here in question applies to development in respect to all the parts

of speech. To illustrate with our adjective *nice*, already often cited, this is first used as a sentence-word; but a term like *virtuous* is never employed until the sentence-word period is outgrown, and the word discharges adjectival function alone.

The appearance of conjunctional function.

It will not be necessary to elaborate on the statement that conjunctions appear late in the child's linguistic development. It is questionable whether the mental processes of a child of two, say, are integrated to the degree required for the purposeful use of the conjunction. Development results in the gradual integration of experience, the establishment of more and more complicated relations among notions; and this makes necessary the use of conjunctions in expression. Probably the earliest sort of integration has reference to objects acting simultaneously in the same way. In the beginning the child will say, "Baby — go — stairs" (Baby is going upstairs); "Papa — go — stairs" (Papa is going upstairs). But early in the third year, one may hear such an expression as this: "Baby *and* papa going upstairs." Objects acting simultaneously and congruently seem to be coördinated in the child's consciousness considerably earlier than are the acts they perform or the qualities predicated of them. One may hear children after the third year say, "My run and fall and get up again," and "Mamma is nice and good," and the like; but such expressions appear later than the first type mentioned. Baby and papa, going up-

stairs together, are apprehended in a single act of attention, so they tend to stick together in representation, and in expression they require to be named together. But there is not quite the same necessity for coördination in successive actions performed by the same object, though of course with development they tend constantly toward integration, and by the fourth year it is plain that fusion has been achieved. The child then joins with the conjunction two or three of his own acts, as well as those of his parents, his brothers and sisters, his dog, and so on. And what has been said of the coördination of actions applies also, without modification, to the coördination of attributes.

The first conjunction appearing in the child's speech is unquestionably *and*. As for the order of the appearance of the other conjunctions, one cannot speak with certainty. Probably *or* is the second to be used with strict conjunctive meaning. The child says, "Baby have apple *or* peach?" This expression was forced upon H. early because of her being required to choose between eatables, the parent saying, "Take this *or* that." The young child hears *or* used a great deal: "Hurry *or* I will go;" "Look out *or* the baby will fall," and so on *ad libitum*. Of course, the mental functioning required for its intelligent employment is quite a bit more complex than in the case of *and*; and it is apt to be employed as a result of mere imitation at the outset. It is undoubtedly true, as a general principle, that the appearance of any conjunction depends primarily

Conjunctions earliest employed.

upon the complexity of the thought which it is employed to express, though imitation is always a factor to be reckoned with, leading as it does to the mechanical use early of a term much heard from the lips of parents and others. *Because* is such a term. Quite early one may hear the child saying, "'cause I do," "'cause I must," "'cause I want to," and so on; and it is probable that his thought is not complex enough really to demand these expressions.

I have endeavored to determine just when such words as "except," "although," "unless," "lest," "in order that," "nor," "whether," "or," and so on, appeared in the vocabularies of my children, but I find it is impossible to speak with certainty about the matter. Of this I am confident, however, that none of these terms is employed with precision before the fifth year. V., at six-and-a-half, does not use any of them correctly, so far as one can detect. But H., at nine, uses them all fluently. It is probable that these terms have forced themselves into her vocabulary largely because of their prominence in her reading. She has, of course, heard them in the speech of the people about her, and she has been reacting upon them for years; but so far as auditory language is concerned, relatively unimportant elements such as these are lost in the wholes of which they are members. However, they are likely to gain some measure of individuality when reading is begun, though they are likely to forfeit it again as the reader gains in facility in reacting to larger and larger

language units. It may be added that a child of five seems to be able to express himself definitely and fully enough without resorting to any of these conjunctive aids that imply quite complex ideational integration. If he did not find these terms ready to hand, and if they were not continually impressed upon him, I think he would not miss them, at least not until he should be placed in situations where he would be required to express involved thought very connectedly and precisely.

3. Pronominal Function

The absence from early speech of anything which could be called a pronoun has attracted the attention of all students of linguistics, and of psychologists and philosophers as well. Philosophical literature is full of speculation concerning the development of self-consciousness in a child, indicated by his use of the personal pronoun. The philosophers, many of them, have said that the child does not distinguish self from others, the ego from the alter, until the terms "I," "my," "mine," "you," "yours," "he," "him," "his," begin to appear in his vocabulary, which most observers have found to be somewhere about the twenty-first month, though a few have not noticed it until the beginning of the third year. Ament detected it in the twenty-first month, Schultze in the nineteenth, and Mrs. Hall as early as the seventeenth. It is suggestive in this connection to note that primitive languages

The late
differen-
tiation of
the pro-
noun.

show great confusion in the use of the pronoun. Brinton¹ maintains that in aboriginal American languages there is no distinction between persons in the pronouns; "I," "thou," and "he" are not discriminated, a single syllable serving for all persons, and also for both singular and plural numbers. In some primitive American languages, however, there is a great variety of pronouns, used to denote not only person and number, but various conditions and aspects of the person or persons designated, as that they are standing, sitting, or lying, alone or with others, moving or stationary,² and so on. According to Powell,³ "The Indian of to-day is more accustomed to say *this* person or thing, *that* person or thing, than *he*, *she*, or *it*. Among the free personal pronouns the student may find an equivalent of the pronoun 'I,' another signifying 'I and you,' perhaps another signifying 'I and he,' and one signifying 'we,' more than two, including the speaker and those present, and another including the speaker and those absent. He will also find personal pronouns in the second and third person, perhaps with singular and dual forms." The pronouns are not in all cases completely differentiated in these languages, but are incorporated in

¹ See his "Essays of an Americanist" (Philadelphia, 1890), p. 396.

² Powell says that in Indian languages genders are not confined to sex, but are methods of classification primarily into animate and inanimate, which are again classified according to striking characteristics or attitudes or supposed constitution.

³ *Op. cit.*, p. 43.

the verb as prefixes or infixes or suffixes, and as such they designate the person, number, and gender of both subject and object, and in the conjugation of the verb they play an important part.

How is it now with the child? Is pronominal function in his case discharged by the verb or some other part of speech? If so, what need gives rise to the differentiation of special words to carry pronominal function? In discussing these questions it should be said at the outset that from the beginning the child, in his reactions, distinguishes himself from others and from things. Of course, he does not make this discrimination reflectively; but nevertheless he does not confuse himself with foreign objects when he is in need of food, say; though, as President Hall ¹ has shown, he may not recognize his fingers and toes as his own. But when he is hungry he does not give his food to another, thinking that the other may be himself. As early as the sixth month he exhibits in his reactions a certain realization of the opposition between ego and alter, for he will squall if another takes his bottle, or even if the mother shows overt partiality to another child. This appreciation is very keen at a year and a half; though the child does not yet use terms that denote distinctions in persons.

When a vigorous year-old child wishes to be taken in your arms, no one who sees and hears him can doubt that

¹ See his "Some Aspects of the Early Sense of Self," *Amer. Jour. of Psych.*, April, 1898, Vol. IX, pp. 321-395.

Pronominal
function
first dis-
charged by
pantomime,
etc.

his discrimination between ego and alter is very clear. All that can be denoted by "I" is exhibited by the child, though in a generalized, impulsive, non-reflective fashion. Again, when you see a child of this age scream and strike at his brother who appropriates his food or playthings, you cannot doubt that he possesses a rudimentary, undifferentiated sense of "mine." When, again, this same child offers his father a taste of his sugar plum, and exclaims, "Ndobbin? Ndobbin?" he is certainly *acting out* the question, "Will *you* have some sugar?" The *you* as contrasted with *I* is involved in the child's action, though he can utter not a syllable to denote the distinction. Further, when the child's brother performs tricks for the babe, and the latter turns to the father or other person, and pointing at the brother laughs at him and gabbles about him, in a reaction of this sort the idea of *he*, or possibly *it*, is apparent. There is a third person in the case, who is not now in vital relations with the speaker and auditor. He is being talked *about*, not *to*. In this latter situation the child shows in his reaction — not reflectively — an appreciation of all three persons in their grammatical relations to him, so to speak.

We have seen elsewhere that in the course of expressive development verbal symbols come gradually to take up the function which was originally discharged by gesture and pantomime; and the principle obtains in respect to pronominal as to other varieties of linguistic function. In the

beginning, the child designates persons and things by gesture, and pronominal function in this stage might be said, perhaps, to be *demonstrative*. Even when he wishes attention turned upon himself, he indicates it by characteristic bodily attitudes and contortions and vocal demonstrations, saying, in effect, "*This* person requires your attention." But as development proceeds, concrete *demonstrativeness* in linguistic function declines, and pure symbolization increases; and in the matter of pronominal function, it results that terms are gradually introduced which merely designate, leaving the matter of particular reference to be inferred from contextual relations. This is true, of course, of racial as of individual evolution; to the primitive mind all expression must be very objective and explicit; but with mental development, simple suggestiveness becomes ever more effective. In other words, language becomes ever more *abstract*, which means relieved of concrete, demonstrative junction.

In his evolution into pronominal function, the child passes first from the pantomime to the nominative stage. He gives its name to everything to which he alludes, including himself. If his elders address him as "baby," then he always uses this term when referring to himself in any way; or, if his proper name is used, then he employs this on all occasions. So he says — a phenomenon observed by every student of the matter, I think — "Baby wants baby milk;" or "Baby hurt baby hand," and so on *ad libitum*.

From pantomime through the nominative to the pronominal stage.

In the same way, he says, addressing his father, "Papa take baby." Similarly, when speaking of his brother, he will say, "Stanley putting on Stanley coat." V. continued in this nominative stage until he was past his fifth year; then with great swiftness he went over into the pronominal stage. Within his linguistic range, he used pronouns with considerable freedom by the time he was six-and-a-half, though he still got the cases of his personal pronouns mixed at times, and he could not use the relatives correctly; his *whats* and his *thats*, for instance, gave him trouble. H., S., and K. were well into the pronominal stage by the time they were three-and-a-half; and by six they had overcome all their difficulties in this respect.

Why does the child pass through the nominative on his way to the pronominal stage in linguistic function? For one thing, the *name* of a person is far more definite and uniform than his *pro-name*, and so all persons in speaking to the child use the former and avoid the latter, as Preyer¹ observed. To illustrate, a father addressing his child will say, "Papa wants this or that;" or "Papa will do this or that," and so on *ad libitum*. The mother, speaking of the father in the presence of the babe says, "*Papa* loves *baby*;" or "*Papa* has come home," and so on. Now, every one who mentions the father when the babe is concerned, uses this term invariably; and the same is true in principle of the baby himself, and the mother, and

¹ "The Development of the Intellect" (translated by Brown), p. 202.

brothers and sisters, and every object mentioned. If the pronoun were used, see the confusion (from the learner's standpoint) which would result. When I referred to myself I would designate myself by "I" or "my" or "me"; when the mother addressed me directly she would designate me by "you" or "yours"; when she spoke to the babe about me she would use "he" or "him" or "his." Here are eight symbols for the same object, looked at from the child's standpoint, and it would be a long story to tell how he must orient himself with reference to each and all of these terms for the same individual. As you watch him moving forward in his integrating activity, you see him adopting first one form and then other forms of the pronouns. At the outset he makes his one form do duty in all cases. "*Him* is a nice boy," "*Me* wants to go to *him's* (or perhaps *he's*) house," are illustrations. We shall go into this in greater detail in the chapter on Inflection; but it may be noticed here that the young child cannot readily accommodate himself to the notion of having different forms of his words apply to the same unchanging thing — unchanging so far as he can see. So parents, more or less intuitively, avoid the pronouns in speaking to young children, and this has the effect to retard the appearance in the vocabulary of pronominal forms.

Then, the pronoun, as used in conversing with a child, lacks individuality, warmth, color. Try talking to your

year-old child in pronominal terms, and see how much weaker is your speech in personal suggestiveness. On the other hand, to continue the nominative stage too long is equally objectionable; it seems "babyish." The opening mind needs to be assisted in its grasp of things by all possible concrete aids; but once it has got a hold it knocks out the ladder by which it has ascended. This seems to be a principle of universal validity in mental development, and is one of the forces incessantly at work transforming the individual's interests and abilities, in linguistic as in other activities.

The order
of develop-
ment in the
use of pro-
nouns.

This will be the best place, perhaps, in which to glance at the forms of the pronouns which are used most frequently at first. I said above that one form of the personal pronoun is often made to do duty for all cases; but what is this form? Mrs. Hall's ¹ boy used *his* first; Rzesintzek ² says that the possessive form *mine* is first used, while von Pfiel ³ thinks that the pronouns denoting second person are first mastered, then those denoting third person, and last of all come those denoting the first person. In Chamberlain's ⁴ account of the linguistic development of his child, *I* and *my* appear very frequently after the beginning of the third year, but the other forms are not in

¹ *Op. cit.*, p. 606.

² *Zur Frage der Psychischen Entwicklung der Kindersprache* (Breslau, 1899), p. 35.

³ *Wie lernt man eine Sprache?* p. 5.

⁴ "Studies of a Child," *Ped. Sem.*, Vol. XI, pp. 264-291.

evidence. Preyer¹ observed that his son, Axel, in his thirty-second month, used *I*, meaning by it "you." In the thirty-third month came such expressions as "*das will ich!*" "*das möchte ich.*" However, before this, in the twenty-ninth month, the objective form of the third person was used, "*gib mir,*" and "*bitte heb mich heraus.*" The boy often used the third person, though, in designating himself, as when the father would ask, "*Wo ist Axel?*" the latter would respond, "*Da ist er wieder.*"

These citations will perhaps suffice to indicate that there is no certain and invariable order followed by all children in the employment of the personal pronouns. In my own observations, *my* has been the first form to be adopted. In every case it came before *I*. It was used in such relations as the following: *my* want to do this or that; *my* feel bad; that is *my* pencil or apple, or what not; take *my* to bed or out of doors. The form *mine* came considerably later than *my*, and *I* still later. The situations involving the use of *my* appear to be more concrete than those involving *I*, and it seems reasonable that it should first appear; and once it gets started it will serve for *me*, *mine*, and *I* for a time. The use from the beginning of all forms of the pronouns, as given in some of the vocabularies, appears to me very remarkable, and quite in contrast to the child's usual method of procedure in similar situations.

Why does the child not settle upon one form perma-

¹ *Op. cit.*, p. 202.

nently? For the effective reason that his social environment will not permit him so to do. His parents, once he gets to using pronouns at all, keep putting the conventional forms before him whenever he uses a form incorrectly; his brothers and sisters and playmates make fun of him for his lack of conformity to environmental standards, and the teacher tries to habituate him in the use of the standard forms, and gives him rules for his guidance. These are all-powerful corrective forces, and no child can long resist them, except in respect to the least important matters. Then simple imitation, where the child more or less unconsciously copies the models in his environment, is of immense importance in leading him to appropriate the various forms employed about him. It is suggestive to note in this connection that when an adult tries to write or speak a foreign language with which he is not very familiar, he experiences much trouble in mastering the cases of his pronouns; and of course this principle applies to other parts of speech than pronouns.

Summary.

Summarizing the principles concerning the parts of speech in early linguistic activity, we have the following:—

1. There are two methods of classifying the words in the child's vocabulary at any stage of his linguistic development: (*a*) according to their grammatical form; (*b*) according to their function in expressing his thought.

2. Treating the young child's vocabulary according to the latter method, we find that his words are always at first sentence-

words. The principal work of expression is done by gesture, pantomime, grimace, intonation, etc.

3. In primitive language most words are sentence-words, made definite by gesture, etc. Occasionally one finds sentence-words in adult speech.

4. The child is at first concerned primarily with the *quality* of objects as he has experienced them, and his expression relates mainly to these qualities.

5. At the outset, substantive and predicate function are not differentiated. Even the exclamation, as employed by the child, carries substantive and predicate meaning.

6. True substantive function appears gradually as a result of the development of the feeling that things exist apart from any of their particular manifestations or attributes. However, the child usually imitates the forms of differentiated speech before his mental content becomes sufficiently differentiated to necessitate their use.

7. The young child, in his early sentence construction, universally omits the copula, its function being discharged by gesture, and left to inference by the auditor.

8. Some observers have found but a very small proportion of interjections in children's vocabularies. They have, however, viewed the matter *ab extra*, for most of the child's early speech is interjectional in character, though not in outward form. With development, interjectional function is gradually confined to the special terms conventionalized for this purpose.

9. The purposeful use of the modifier, with strict adjectival and adverbial function, implies considerable development of particularizing activity. At the outset, adjectival and adverbial function is discharged by grimace, intonation, etc.

10. Adjectival function is developed through a process of

generalization of experiences of one kind or another with objects, so that in time qualities are conceived to have a kind of reality apart from the objects. *Nice*, for instance, comes to denote a certain sort of experience without reference to any particular thing.

11. The adjectives first used are those descriptive of concrete experiences with food, and other objects with which the child has vital relations in daily life. Adjectives relating to social, ethical, and moral qualities appear last of all.

12. The development of adverbial function follows the same course in principle as the development of adjectival function.

13. The young child does not use prepositions or conjunctions, probably because his mental content is not sufficiently integrated to require them. His thought is of things and their qualities, and not to any great degree of their relations as denoted by prepositions and conjunctions.

14. Prepositional function is at the outset discharged by gesture and by the verb, alike in child and in primitive speech.

15. The early use of terms grammatically prepositional may not be functionally prepositional at all, as in the case of *down*, *up*, etc.

16. Such terms as *toward*, *among*, *against*, etc., are never employed until the various parts of speech have become well differentiated from the original sentence-word, and they are used from the start with strict prepositional effect.

17. Conjunctional function is differentiated later than prepositional function, probably because it depends upon more highly integrated mental content.

18. The conjunctions first to appear are *and* and *or*. *Except*, *although*, *unless*, etc., appear relatively late, doubtless because the relations which they symbolize are slow in being appreciated.

19. The pronoun does not appear until toward the beginning of the third year. Until this time, pronominal function is discharged by pantomime, etc. The child shows that he conceives all the notions denoted by the several pronouns some time before he employs them.

20. The young child prefers to use the name of a person or thing rather than to employ a pronoun, doubtless because it is psychologically easier, and also because adults rarely use pronouns in speaking to him.

21. There is no certain order in which all children use the pronoun, but *my* or *me* usually appears before *I*.

CHAPTER V

INFLECTION, AGREEMENT, AND WORD ORDER

1. The Function of Inflection

The specialization of sentence elements.

IN the preceding chapter it was shown that, as the child's experience becomes more complex and differentiated, the sentence-word is gradually felt to be inadequate for the effective expression thereof; and the several functions which it discharges in an undifferentiated form begin in due course to assume an independent rôle, and are carried each by a specialized element or member of the linguistic organism, the sentence. The specialization of these elements is dependent mainly upon the differentiation of experience; but also partly upon imitation, both reflective and mechanical. The elements, having gained a certain degree of individual existence, react upon experience, making its differentiation more definite and permanent. When the child begins the use of the sentence proper, even though by mechanical imitation, he nevertheless comes into the inheritance of a plan according to which all his formulation of experience will thereafter occur.

Now this process of specialization does not cease when

the parts of speech, as we have discussed them, have all been evolved. In reality, this is only the beginning of a long-continued process of differentiation. Several of the parts of speech must themselves undergo specialization, according to one plan or another, in order to meet the need of portraying experience becoming constantly more complex and intricately involved. This is, however, less prominent in our own than in other, particularly ancient, languages.¹ There will occur to every reader the varieties of the forms of the Latin and Greek nouns, pronouns, verbs, and modifiers; though it is probable that pupils in the schools studying the classics and declining the nouns and pronouns and adjectives, and conjugating the verbs, do not appreciate the real significance of these forms, because they are not compelled to use them for the gaining and portraying of experience, so that they do not realize that each form is of service in the expression of a particular notion. Look at the noun, for instance; it has its particular forms to show the sex of the thing denoted, and whether one or more are being considered. Further, the function of the thing in question, or what happens to it, or its relation to other things, — case relations, — must each be indicated by a special form of the noun. Thus a noun is in the nomina-

Specializa-
tion of the
parts of
speech
themselves
to express
special rela-
tions.

¹ Sweet, "A Practical Study of Languages," New York, 1900, Chap. VII, says that inflections take the place of prepositions, particles, and auxiliaries, in analytical languages.

tive case, speaking generally, when the thing it denotes is the subject of the individual's thinking; grammatically, the "subject of a finite verb." A noun is in the accusative case, and its form must show where it belongs, when it denotes the thing which in the speaker's mind is the goal of the action of the subject; grammatically, the "direct object of a finite verb." A noun is in the genitive case when the thing it denotes is, in the speaker's mind, the source or origin or has possession of some quality or object to be denominated. A noun is in the ablative case when the thing it symbolizes bears such a relation to the subject of the individual's thought as is indicated by our English words "from," "by," "with." So we might run through with the other cases, and we would find that each is the result of a process of differentiation, whereby special conditions, relations, or properties of objects may each be accurately denoted by peculiar modifications of the symbols denoting them. The more primitive languages possess a single unmodifiable or uninflectable word, for man, say; and then the speaker using the word is compelled to particularize by means of gesture, intonation, grimace, pantomime, etc. Thus we see again that, in highly developed languages, abstract symbols are made to discharge the function which in primitive languages is borne by hands, face, voice, and body, as expressive agents. What is here said of the inflection of nouns applies in principle without qualification to all the parts of speech.

2. Inflection of the Noun and the Pronoun

With this word of introduction we may turn without further delay to the development of inflection in the child's speech. Now this development may be influenced by three factors: (1) increasing differentiation of experience; (2) imitation, reflective, or mechanical; and (3) habit. If the child were an accomplished linguist by birth, he would use an inflected form just when he needed it to express some particular experience or relation with an object, but he would not use it before this; nor, on the other hand, would his use of it be delayed beyond this point. But as a matter of fact, he sometimes imitates inflected forms before he can use them intelligently; and at other times he has need for more precise and effective forms than he employs, but he has become habituated to the use of a certain form, and he cannot readily free himself from it. It is probable that these three factors working together will account for most, if not all, of the individual's experiences in mastering inflected language.

Three factors operating in the child's use of inflected forms.

To begin with the noun, there are practically (from the child's standpoint) but two cases in English; our use of prepositions renders other cases needless. The possessive form of the noun is, according to my observation, never used as early as the nominative. The latter form serves all purposes at the start. S., at three, will say, "Papa has *Papa* glasses on;" "My found *Mamma* glove;" "My have *Hawy* knife," and so on *ad libitum*. It may be noticed

Inflection of the noun.

that adults, in talking to children at this stage of development, often use the nominative for the possessive form because it seems simpler. However, when the child becomes conscious of the possessive form,—which, as he grows older, is impressed upon him constantly by his elders, and which he tends to imitate as it occurs in the speech of his companions who have learned it,—when he gets the swing of it in his tongue, he makes rapid progress in employing it properly on all occasions.

The young child does not experience much difficulty with his plural forms (of nouns) when they are regular, but he easily goes astray on the irregular forms. Was there ever a child who did not say “gooses” when he first had occasion to use the plural form? And “oxes,” “mouses,” “tooths,” “mans,” “sheeps,” “deers,” “leafs,” “knifes,” etc.? H., coming down with the chicken-pox in her eighth year, exclaimed one morning, “I have fifteen chicken-*poxes*,” and three other children used the same form. When the child enters school, and begins to write lessons, spelling, and otherwise, the irregular plurals give him much trouble. In a child’s spontaneous writing, even after several years in school, and done without special reference to spelling, but only to express his thoughts,—in this writing there will be found a strong tendency to make a principle of inflection cover all cases. When H. has got into the way of making the plurals of words ending in *f* by “changing the *f* to *v* and adding *es*,” she then comes to

"chief," and she treats it as she has others of a similar make; and this is typical of many difficulties she encounters.¹ It is only after much experience in hearing and seeing the irregular forms, and especially in using them, that the child can resist the tendency to make them regular.

Mention has been made² of the difficulties which the novice encounters in mastering the forms of his pronouns. *We* is mastered only after many weeks of struggle; and *he*, *she*, *us*, *our*, *they*, *his*, *their*, *hers*, *theirs*, *them*, *who*, *its*, *whose*, and *whom*, are, in the order given, increasingly more difficult of mastery. H., at ten, who is accurate and facile in the use of ordinary linguistic forms, cannot yet be depended upon to use *who* and *whom* correctly on all occasions. S., at four, sometimes treats his auditors to the following typical barbarism, "*Us* is all going out on the lake;" though when his announcement is greeted with shouts from the other members of the family, who may repeat his words with emphasis, he will usually correct himself linguistically without special aid from any source, showing that he has a feeling for the conventional form, but his original tendencies are still strong upon him.

Inflections
of the pro-
noun.

¹ Egger, *Observations et Reflexions sur le Developpement de l'Intelligence et du Langue chez les Enfants, troisieme partie*, has a good discussion of several points raised in this chapter. He dwells especially upon the influence of analogy in determining the child's speech. Most of the students of child language have cited instances illustrating the principle.

² In Chapter IV.

Slowly, very slowly, through the reaction of the people about him, reënforced by imitation, will he come to substitute the conventional for the original form.

It should be remarked that children of three or even older will often name each member in a group instead of employing *we*; thus V. would say, "Mamma, Papa, S., H., and me all have candy;" or, "all go to ride," etc. (indicating by gesture who are included in "all"). Then the father will say, "Yes, *we* will all go," and V. catches the suggestion, though he may not reflect upon it. For this reason it must be often repeated, which is done incessantly by every one about V., and so it literally forces itself into his speech in the course of time. It is apparent why it should not be taken up readily, for its intelligent use requires relatively elaborate and difficult psychical processes. The child has been regarding individuals as isolated entities, each having a name; but now he is required to conceive of several individuals as a group to be designated, not by the name of each, but by the novel term "we"; and the principle holds for *they*, *their*, *theirs*, and *them*. Besides, the term "we" can be applied only to the group of which he is a part at the moment, and with each member of which he has vital relations which make the group a unit. It requires considerable experience to define these situations, even with the assistance of imitation; and the same may be said in respect to the several plural forms of the third person. A child will enumerate the names of a number

of individuals who possess a thing in common, rather than to group them and employ the strange and to him devitalized term "their" to denote that they as a body possess the thing or quality in question. From what I have observed, I should say that the forms of the third are mastered later than those of the first person, for the reason, probably, that the relations described by the latter are more vital, and so more impressive, and at the same time more easily grasped than those described by the former. It seems probable, too, that adults, in speaking to young children, use the forms of the first person much more frequently and effectively than they do those of the third person, and this would result in the child gaining control of the former more easily than the latter. This last point appears to be a matter of considerable importance, not only in reference to the learning of the forms of the pronouns, but it applies equally well to the learning of the inflected forms of all parts of speech.

3. Inflection of the Verb

The child's troubles in acquiring mastery of the conventional pronominal forms are slight when compared with those he encounters when he attacks the verb. His feeling for regularity and uniformity, and his tendency to organize his experience inductively, and to deal with new experiences apperceptively or analogically, — these traits which serve him so well in most situations are often a

Special difficulties in mastering verbal forms.

handicap to him in handling his verbs; in witness of which note the following, gained from four children between the ages of three and five; they are typical of a large number of instances that might be given: S. kills a fly and says, "*deaded* him." "I *speaked* right out." "I *letted* him in." "When you get H. all *teached*." "It will be *stealed*." "I *seed* him." "I *runned* after him." "There is a man with a hatchet; what is he going *to hatch*?" "I *drunked* my milk." "I *drinked* my milk." "I *eated* my apple." "My *falled* down the step." "Budd *swunged* on the rings all the time." "Mamma *buyed* me a dollie;" and later "Grandpa *boughted* me a ring." "S., did you *telled* it to Mamma?" "He *bited* me." "I *caughted* him." "Aunt Net *camed* to-day." "S. *fighted* me." "I *growed* last night." "H. *maked* it all herself." "I *shutted* the door." "I *finded* it myself." "He *gaved* it to me." "B. *hided* it so I can't get it." "I *maked* it all alone," etc.

Difficulties
with tense
forms.

The child's struggles begin with the tense forms of the verb. He first learns the form expressive of present action, since at the outset this is the only action that he can bring before his attention; things past and future are beyond his ken. When he gets the present form, he clings to it for a time in referring alike to simple past and to simple future events. Thus V., at about three years, comes out of the kitchen, saying, "My — pan — drink — out" = "I have been drinking (or I drank) out of the pan." The idea that

he *had drunk*, and not that he *was going* to drink was denoted by his gesticulating toward the kitchen, and showing by his manner that he had enjoyed it. Again he says, "S. my *scratch*" (showing a hand marked with fingernails)="S. *scratched* me." Still again, "Papa — University. — go — to-day"="Are you going to the University to-day, Papa?" It is probable that all children pass through a stage when verbs in the present tense are made to do service for simple past and future tenses. Here again, grimace, gesture, intonation, and collocation of circumstances are all employed as substitutes for inflection, — as compensating factors for paucity of verbal forms.

When the child does begin to use any of the special conventionalized forms for past time, it seems to be first the participle form used adjectively in large part. "Papa — gone?" and "Papa *going* to-day?" are typical of the earliest uses of verbal forms. Soon after these expressions, others are heard like this: "Dollie — fallen — down"="Dollie has fallen down;" but it is evident that the child is not here expressing a present-perfect-tense idea. His conception of the situation is not primarily actional in character; it does not concern an event having occurred previous to the present moment. He simply observes the doll in a certain condition, and the *fallen down*, as he employs the terms, are principally adjectival¹ in function.

The ad-
jectival
character
of some
tense
forms.

¹ It is, of course, possible that *down* is here used with prepositional reference. One would need to know just what phase of the total situa-

Apparently the present-perfect-tense form, coming from the lips of children for the first five years or so, is descriptive or qualitative rather than historical or actional, regarded from the standpoint of the content of the child's consciousness in employing it. S., at five, says: "Some one *has taken* my hat;" "The apples *have fallen* on the ground;" "The water *has run* out of the bath-tub," etc. Now in these situations, as I have observed him, what he aims to do is certainly to *describe* himself in his present condition; he is without a hat — he is hatless; the bath-tub has no water — it is waterless; the tree is appleless, and so on, His expressions cannot be said to denote conceptions of "completed action" in a grammatical sense. Doubtless the same principle holds for the past perfect tense, which, however, is never used, except mechanically, before the eighth or ninth year, and then only infrequently, according to my records.¹ H., speaking of her work at school, says that when she went to a certain class she "*had forgotten* the paper and pencil." Now one can tell that she was thinking of her paperless and pencilless condition, not of some "action completed in past time." See the principle

tion was most prominent in the child's attention in order to be certain of his ground here.

¹ Constructions employing the perfect participle are rarely used by children until they get into school and study them; and even then these constructions do not appear in their spontaneous utterances at all frequently. A simpler form will express their ideas with sufficient definiteness, and this is doubtless true of unlettered adults. Instead of a child saying, "Having dressed myself, I came downstairs," he will make it

illustrated in the following expressions used by H. in her eighth year: "The snow *had filled* the walks;" "The teacher *had called* school when I got there;" "The sun *had melted* the ice off the walks," etc. The point is that the child, employing these expressions, is in most cases describing a situation and not stating a sequence of events in the past.¹

But if this be the case, why does he not employ more direct adjectival terms, for they are simpler, as "The snow *was all melted*," "The school *was called*," and so on? As a matter of fact, the child, from four or five on to ten, say, does prefer these phrases. The past, or even the present, perfect tense does not come frequently from the lips of the young. A boy of five will say, "I *tore* my jacket," or "My jacket *is torn*," ten times, perhaps, where he will once say, "I *have torn* my jacket." This could hardly be said of a ten-year-old, though the past perfect tense is, relatively speaking, seldom employed at ten even. It must be repeated that what a child actually aims to accomplish in these expressions is to describe a situation as it actually exists. With regard to tense forms, he can probably not arrange events in such a complicated temporal pattern as

"I *dressed* myself," or "I *finished dressing* myself." In like manner, all the more complicated participial constructions are employed only in formal writing in a manner to be described later.

¹ Adults, too, of course, use parts of speech interchangeably in their reference. I say, "Professor Blank *has lost* his temper," and my thought is really adjectival in character.

would be essential to employ the past perfect tense, say, with the precise function which the grammarians assign to it. It is doubtful if adults employ it with such function, at least in their ordinary use of it. The grammarian's or the logician's view is based upon the use of a mere conventionalized form, and not upon the psychological attitude of the one who employs it.

The development of particular tense forms.

As to the future perfect tense, I have not heard it used by a child before he commenced its study in school; and even then its spontaneous use is rare. This is apparently one of the forms reserved for maturity. It is probable that it is not commonly employed even with grown people of limited intellectual development. Its intelligent employment requires complicated mental processes of the nature of temporal orientation beyond the powers of young persons or of untrained older ones.

At a relatively early period — S., K., and H. by the third year, V. considerably later — children use with some ease and accuracy the regular form of the verb for simple past time. Among the earliest inflections of this character I have noticed are: *played, jumped, tied, kissed, washed, pushed, climbed, helped, throwed, stopped*. When the learner becomes somewhat used to the regular form for simple past time, he extends the principle of inflection to all verbs, as was noted in some examples given above. For several years, at least, he exhibits this tendency strongly; and his parents and teachers

must keep at him constantly to get him to use correctly the irregular forms.

It may be observed in this connection that the novice has relatively little difficulty in expressing the continuance of action in past time, or in future time either, though the latter is heard much less frequently than the former. Even while the learner is having trouble with irregular forms of the simple past tense, he can say with facility, "I (or he) *was doing* this or that." Psychologically, this expression and the one for simple past time appear to be of substantially the same degree of complexity for the child. However, in using this last mode, he seems to be giving expression to an adjectival rather than a purely actional mental content. Possibly both contents are present and fused; or the content may be predominantly actional at one moment and adjectival the next, depending upon the phase of the total situation which engages the speaker's attention. It seems to be the child's intention to describe himself rather than the activity he was performing; but his description concerns dynamic rather than static characteristics.

The use of the future tense always comes later than the past tense, not because of the mechanical so much as the psychological difficulties. The child's consciousness is more explicit and definite with respect to past than to future experience. He comes from having performed an action, and it may be still dominating his intellectual,

emotional, and to a certain extent his motor processes. At the moment it really has present value for him, and he uses the present tense to express it. But with increasing experience past events come, by a method which has been sketched elsewhere,¹ to have a distinctive tone, and to be arranged in patterns in consciousness different from those occurring at the moment, and so they are gradually differentiated. The child in this way orients himself with reference to experiences, alike in the present and in the past. But the development of a sense of future time is more difficult, and is consequently somewhat delayed. It is probable that children from two to three or thereabouts often use *shall* and *will* in a purely mechanical way, picking them up by imitation, before they really need them, because they are used so frequently by the grown people about them.

The children I have observed all showed a dawning sense of future time first in reference to some person preparing to go out. Their expression then would be of this type: "Papa going — University?" Then a little later this typical question would be asked at the breakfast table: "Papa, going — University to-day?" Contemporaneous with these expressions were others like this: "I want to do this" (or that), or "I want to go here" (or there). In experience of this character, the sense of time to come is impressed upon the child because he *has to wait* for desired, or possibly for undesired, events. The

¹ In the author's "Education as Adjustment," Chap. X.

child is constantly hearing expressions like this: "Dinner *will* be ready in half an hour;" "Your milk *will* be warm soon;" "Elizabeth *will* come over this afternoon," and so on. Then the child is incessantly asking questions like the following: "Can you go on the lake with me?" and he is receiving responses of this sort: "I can't go now, but I *will* go this afternoon." These experiences, in which he must wait for an event to occur, develop in him the sense of future time, and his elders supply him with the special terms appropriate for the designation thereof. So, often by three, — as early as this in the case of K., later considerably with V., — one may hear expressions from the child such as this: "I *will* come in a minute;" "I *will* go in a few seconds." It may be added that *will*, to express simple futurity, appears in the vocabulary some time before *shall*, and it meets all the child's needs. The child's attitudes are better expressed by the former than the latter term. *Shall* seems weaker; and it is relatively ill-suited to the vigorous, dynamic attitudes of the child.¹ *Shall* is heard rarely even in the utterances of a ten- or an eleven-year-old child, who has easy mastery of a wide range of linguistic forms. One of the trials of the teacher in the sixth, seventh, and eighth grades, and even in the high school, is to get his

¹ It is recognized, of course, that the child hears *will* more frequently than *shall*, and so it becomes impressed upon him more strongly, and when he acquires one form for expressing a general situation he tends to use it in reaction upon all phases of the situation.

students to use *shall* and *will* with grammatical accuracy on all occasions; as I have indicated above, *will* is the term first and most generally employed.

Mode in
early
speech.

It will not be necessary to dwell long over the imperative mode, for this is well suited to the child's attitudes, and he has no difficulty in correctly employing it in respect to any verb as soon as he gains even a slight familiarity with it. The child's attitude in the early years is essentially mandatory; and long before he can employ conventional symbols he gives his commands by means of gesture, pantomime, and intonation. The first conventional words he uses are in some instances verbs with imperative significance. *Take, make, find, give, pull, throw*, are examples. They are given imperative effect by intonation and grimace mainly.

Auxiliary
verbs.

Before leaving the verbs, a word should be said regarding the auxiliaries. I have observed that *can* is normally used for *may* in the first period of the use of these accessories: *Can*¹ I go here or there or do this or that? And later *could* is used for *might*. *Can* and *could* suit the nature of the child better, probably, than *may* and *might*; they are more dynamic, more suited to the simple, straightforward, urgent attitudes of the child. It appears that children

¹ A friend commenting on this statement says children copy from their playmates this word *can* instead of *may*, and this is why they use it on all occasions. But they constantly hear their elders use *may*, and they are not influenced by it, though they may be imitating many other expressions they hear.

must be drilled in the use of *may*, or it will not be incorporated in their speech until relatively late in their development, if indeed it will be adopted at all. One sees people who have grown to maturity without feeling the need of *may*. The same may be said of *might*. *Would* appears in the vocabulary sooner than *could*, and *should* comes still later; and there is much confusion in their use when the child is trying to get acquainted with them. But *could* settles into place first, and is used quite accurately in two sorts of situations as early as the fourth year, — (1) to obtain permission to perform some action, and (2) to indicate capacity or power to perform an action if the child had made the effort or if he chooses or had chosen to do so. The subtle distinctions giving warrant to, and really making necessary, the use of *should* are for the most part beyond the six- or even seven-year-old, though H. at eight and a half uses the word freely in such phrases as “I *should* say so”; “*Shouldn’t* you think?” “*Should* I do this problem in this way?” “You *shouldn’t*¹ annoy B.,” and so on. Some of these uses are largely mechanical, as “I *should* say so”; but the others, while doubtless imitative in large part, yet appear to be employed with some sense of their fitness and their significance.

¹ Of course, “You *shouldn’t* do” this or that appears considerably later than “You *mustn’t* do” it. The child’s relations to his associates is one in which *must* expresses his attitude more perfectly than *should*; the latter term implies the decadence of coercion, and the appeal to principles of conduct which should control present action.

Making
nouns per-
form verbal
function.

Finally, attention should be called to the child's readiness in inflecting nouns to perform verbal function whenever he is hard-pressed. S., at five, looking at a tragic scene on the bill-boards says, "Is that man going *to dagger* the other one?" So I have noted such expressions as these: "I am going *to basket* those apples." "Look at that lady *parasoling!*" (waving her parasol in the air). "I *footed* (stamped) him." "I *pailed* him out" (took a turtle out of a wash-tub with a pail). "I *needled* him" (put a needle through a fly). "I want to go *horsebacking*," etc. H., overhearing some remarks concerning a new governess coming into the house, asked, "When is she coming *to governess* us?" Sometimes children seem consciously to play with the function of words in this manner; but at other times they take liberties from dire necessity. It is probable that children are more active in this way than adults, for one reason because their needs are greater, not having a variety of linguistic resources at hand for all emergencies; but in addition to this, their linguistic materials are more plastic than those of the adult, and their language sense — the sense of the ways in which words are constructed — seems often to be keener. Adults have, in large measure, settled down to the use of conventional forms, which have become so hardened that change seems relatively difficult.¹ The principle here in question prob-

¹ Adults use nouns with verbal effect when necessary, as in the case of *function*, *finance*, *referee*, *deed*, and the like. But these usages have

ably applies to every phase of the child's linguistic activity, — the tendency to follow a method in the employment of words which has been pursued in the gaining of the vocabulary already mastered at any point in linguistic development.

4. Inflection of the Adjective and the Adverb

Most of the principles already discussed respecting developmental phenomena arising from the child's reaction upon the inflected forms of nouns, pronouns, and verbs, apply with but slight modification to his reaction upon the inflected forms of adjectives and adverbs. Children at first designate by gesture, pantomime, etc., differences in the degree to which a person or object possesses any particular attribute or quality. When H., at two years, wishes to indicate that her orange is very sour, she tastes it and "makes up a horrid face," splutters, and pushes the orange away, which actions are significant to every one observing her. At this age she does not use any conventional verbal symbol to express her experience; but at two and a half she can say *our* (sour). This term, uninflected, answers for all degrees of sourness, the comparative function being discharged in the concrete manner indicated. Then in the course of development the original, simple term becomes modified by limiting terms, — "'itty sour," "teeny bit sour,"

Comparative function in the beginning.

already become conventional; the adult will rarely invent a novel usage, as the child does frequently.

"very sour," "very much sour," "awfuy (awfully) sour," etc. These limiting terms are often at first imitated, and used more or less mechanically; but as experiences increase and become differentiated, the terms can be used intelligently.

I have not observed in the early stages of development, at two and a half or thereabouts, when modifiers begin to be employed, that persons or objects are compared with reference to particular attributes. It must be, reasoning in a more or less *a priori* way, that with the child from three or four months onward experience is being continually integrated, with the result that ever more intricate and elaborate complexes are being formed; and from this we would infer that quite early the gradation of similar experiences, according to the effect upon the organism, must go on in some sort of elementary fashion. But at the same time the feeling of values arising from this comparing activity is much less impressive to the child than that arising directly from a present vital experience. If H., tasting her orange this morning, has her experiences with oranges of previous mornings revived so that she can arrange their degrees of sourness in a scale, — if this occurs, the process must be wholly marginal, for her reaction has reference apparently to the present situation alone. The general principles of mental development aid us here, for they suggest that the greater the degree of immaturity the less the degree of organization of experience, and so the less the tendency to view objects in their quantitative or even qualitative rela-

tions to one another. Immature creatures, by which is meant those that have had only relatively narrow, undifferentiated, and unsystematized experience, are more completely affected by a present experience than are those of greater maturity. Young children, speaking generally, give themselves more completely than do older children to the thing acting upon them at the moment, adapting themselves to its attributes without much reference to other things, whether similar or not. At any rate, the comparing activity, so far as it is revealed linguistically, does not begin to manifest itself before the age of three or so, some time after the appearance of adjectival and adverbial function in the vocabulary.

The first inflected form to appear is the superlative of the adjective, and relates to simultaneity of experience. It comes "natural" to the child to employ the terms "biggest," "strongest," "nicest," etc., on all occasions where he is measuring his own achievements or possessions with those of one or more of his fellows; the child's attitudes in his social adjustments in the early years are often such as can be expressed best by the superlative degree. In due course, but probably only after some special instruction, the comparative form makes its appearance, and is employed in expressions like the following: "I am *stronger* than you;" "I can run *faster* than you;" "You have *more* than me;" "My apple is *gooder* than yours;" "He is *nicer* to me than you;" "That lion is *awfuller* than the other one."

The first
inflected
forms.

So we hear from the mouths of children from three to four and a half such forms as *beautifuller*, *emptier*, *worser*, "on the *topper* (topmost) limb;" "give me *more handier-cap*" (give us a greater handicap — in a foot-race); "It is *more windier* on the back lawn than in front of the house," etc. It may be remarked in passing that there is a period in the child's acquisition of inflected forms of modifiers (and other parts of speech as well) when analogy and imitation are vying with one another, and he may follow the leading of analogy at one moment and of imitation the next. For instance, in the use of the comparative form of *good*, S., at four, will say *better* five times where he says *gooder* once (this is an estimate); but nevertheless, in times of excitement or linguistic struggle, he will revert to the easier form, probably because it is the original and regular one. In all cases observed, I have noted this season of competition between the early analogical forms and the later conventional ones, and this, to repeat, in respect not only to modifiers, but to all inflected forms.

The super-
lative de-
gree.

Once the novice has acquired the swing of the comparative form he uses it very freely, and without regard to grammatical rules on all occasions. "Mine is *bigger* than all of you," he will say; or more simply, "Mine is *bigger*," showing in his face and attitudes that he is taking account of every one present. However, the superlative form is dinned into his ears from every side, as when he boasts of his apple with "Mine is *bigger*," his older sister holds up

hers and says, without the intention of instructing, of course, "Mine is *biggest*," and this is illustrative of the way the social environment is acting on him incessantly.

When the learner attempts to express a relationship of lower or of lowest degree, he is almost certain to get tangled; and often he abandons the task and goes over to the other pole of the relation, in which he expresses the possession of higher degree. Or perhaps he attacks the relation from another standpoint: "Our lawn is *not as green as* Mr. S.'s;" "We haven't *as many* leaves as any of the neighbors;" "You all have had *more* rides than I have," etc. It seems that for a long time children avoid the *less* and *least* and *fewer* and *fewest* constructions; *not as much as* and *not as many as* come more "natural" to them. Of course they can, and frequently they do, express the relation in question by turning the objects compared around, and stating that one is greater than or in excess of the other: "Mr. S.'s grass is *greener* than ours;" "There are *more* children in our room than in V.'s," etc. It is probable that they could get on very well in all the ordinary situations of life, even if *less* and *least*, *fewer* and *fewest*, should be lost out of the language. H., at nine and a half, occasionally uses the *less* and *least* constructions, and they have apparently come mainly from her reading, for it does not seem that these particular expressions stand out very prominently in everyday conversation even among adults. At any rate, the child's special modes of denoting relations of lower and

lowest degree are so effective on the whole that the adults about him do not think it necessary to impress any better, or perhaps different, way upon him.

5. Agreement in Early Speech

Violations
of the prin-
ciples of
concord.

It may be observed, finally, that the novice, in the building of his sentences, has trouble in employing those forms that belong together according to conventional usage. My records show many violations of the simplest principles of concord, such as the following: "I *are*;" "I *is*;" "She (or he) *am*;" "He (or she) *were*;" "My *feels* bad;" "My *wants* this;" "I *runs*;" "The *dogs runs*;" "Here *comes* the boys;" "There *goes* V. and H.;" "My *doesn't* care;" "He (or she) *don't* do right;" "All of us *was* there;" "Every one *were* good to me;" and so on *ad libitum*. It is not necessary perhaps to do more than mention certain violations that often persist far along toward adulthood,¹ as: "Neither *I nor* the *teacher were* there;" "The *teacher with all* her pupils *were* on the playground;" "Two miles *are* not very far;" "Four hours *are* enough in school," and the like. The principles of agreement in expressions of this character are too subtle for the young child, and his ear is not keen enough to detect the practice of his elders, so he proceeds by analogy, and treats any new

¹ Even adults sometimes use the correlative *neither . . . nor*, with a plural verb, though they may, upon reflection, detect the grammatical error. It is evident that the psychological and the grammatical attitudes are not always congruent in the situation in question.

expression according to the principle indicated by some similar instance in his experience. He has gradually gained the notion (or rather the habit of speech) that when he uses a plural subject the form of the verb must agree,—“*John and Mary were*,” as a type. Now when he says “Neither the teacher nor the pupil,” he feels that he is using a plural subject, and he is then moved to employ a plural verb; and the principle has wide application. As a matter of fact, speaking psychologically, he has two persons in mind when he says, “Neither I nor the teacher,” in just as real a sense as when he says, “Both I and the teacher.” While logically only one is conceived of as acting at any moment, yet this is not true psychologically. Take the expression, “Neither S. nor I tackles well,” and the same idea may be expressed thus, “We do not tackle well,” in which it is apparent that both objects are thought of together and act congruently, which should give a plural verb. The grammatical distinction is an arbitrary one, and the child often ignores it when he meets it.

Long after he has learned the grammatical reasons why he should use a singular verb, he will still, under linguistic stress, and sometimes without such a cause, fall back upon the old practice. Only by continual correction and repetition of the conventional form will he establish a new habit, so that when he starts on the *neither* series he will automatically use the singular form of the verb. The prin-

ciple applies without qualification to the several types of faulty concord indicated above. But it may be added here that the children I have observed have had unusual difficulty in learning to use singular verbal forms in expressions like the following: "Four hours *is* enough in school;" "Two times five *is* ten;" "The teacher, with all the pupils, *was* on the playground," etc. In all these instances the feeling is very strong that the subject is plural; it *sounds* plural for one thing. In reality the subject may be plural, if the individual has the feeling of four separate hours rather than one period of time. In the expression, "The teacher, with all her children" . . . there is often psychological plurality, just as fully as in the expression, "The teacher *and* all her children. . . ." The grammatical distinction, that in the first case the speaker is conscious only or mainly of the teacher, or wishes to direct attention to the teacher, while in the latter case he seeks to direct attention equally to the teacher and the pupils, may not always be the case; indeed, such a distinction certainly does not exist in much of the child's usage of these expressions.

The relative pronoun.

The novice has difficulty usually in the use of the relative pronoun so that it may be in grammatical agreement with its antecedent. V., even at seven and a half, uses *what* for *that* or *who* or *which* in the bulk of his constructions requiring one of these relatives. He says, as a type of expression: "He is the man *what* gave us a ride;" "This

is the thing *what* I found." The first relative to appear is *what*, and it is employed very freely for some time. It is not at all easy to introduce other relatives into the vocabulary of some children; as I have indicated, V. has held to his *what* for a number of years, even in the face of considerable more or less explicit instruction. It really serves him very well, except that his elders keep suggesting *who* or *that* or *which* on proper occasions. *Who* gets established earlier than *that*, and *which* comes the last of the group named. It is not meant that *which* is never used until *who* or *that* is fully mastered; but it does not get permanently into the vocabulary, so that it can be used freely, until the other relatives mentioned are fully in hand.

6. Word Order in Early Sentence Construction

All available evidence seems to indicate that there is a lack of uniformity in the place relations of the several parts of speech in the sentences of different children, and even of the same child at different times. Mrs. Hall¹ gives a sentence used by her son in his seventy-first week: "Pencil — write — Papa — book" (I want a pencil to write in Papa's book). I have recorded many sentences of similar content, but in some instances the children constructed them differently in respect to word order. The following construction, while slightly different in content

The lack
of uniform-
ity in
word
order.

¹ *Op. cit.*, p. 599.

from the one given by Mrs. Hall, still, in the parts where the ideas are identical, the word order is not the same: "Papa — book — pencil — write" (Papa, I want a pencil to write in this book). Now from the child who used this construction one day, I gained the following on another day: "Papa — pencil — book — write." These are mentioned as typical examples to indicate that there is no uniform word order for any given sentence employed by all novices or by any one novice at different times. It is to a certain extent apparently a matter of chance as to how the words will be arranged;¹ the child's first sentences are exceedingly plastic with respect to word order. The various elements are in the beginning more or less independent in the matter of sequential relations; the novice does not feel that the subject must precede the verb, and so on. With development, however, these elements gradually lose much of their mobility, and get set quite permanently and immovably in their respective places according to the usages of the native tongue.² With the practised tongue the characteristic sentential sequence becomes so thoroughly established that it cannot depart therefrom except by conscious effort. But the young child is usually dominated by the total idea to be conveyed, and he is only discov-

¹ Cf. Lukens, *op. cit.*

² Of course, there is a certain amount of plasticity in the word order of the English tongue as used by adults; and yet in ordinary direct discourse, such as the child employs solely, this order is practically the same for all individuals and on all occasions.

ering how to express the elementary notions in a *series* of symbols. He has but recently emerged from the embryonic stage where his entire thought was bodied forth in a single symbol, accompanied by a unified gesticulative complex. So his thought tends now to be expressed in the old mono-verbal way, while at the same time the newly differentiated sentence elements urge themselves upon his attention. As a consequence, there is strain and stress to find terms for the partial ideas as they are apprehended more or less distinctly.

While the sentential pattern is becoming established, children struggle over simple expressions, and keep backing up constantly in the attempt to find a new trail, as it were. The word which may best describe their condition is *confusion*. Seemingly, the idea to be conveyed rushes headlong, now in this direction, now in that, but it cannot make its final escape to the outer world by any one route. Doubtless it might be possible to prophesy that the child will use one of say four constructions, for in the simple sentence there are but few permutations possible. As he develops, however, we can say with ever greater assurance that he will always employ definite constructions, in respect to word order, since the conventional modes used by those with whom he associates will gradually become fixed in his own speech; but we cannot be more definite than this.

There has been a great deal of discussion of the question,

The sequence of elementary ideas expressed in the sentence.

What is the sequence in which the elementary ideas expressed in a sentence must appear? In different languages the word order is different in some essential respects; and even in any one language the word order in the several sentential types may be varied considerably on different occasions. Spencer's theory is naturally suggested here: that word order is most "natural" which awakens elementary ideas in the sequence in which they can be most economically and effectively combined in the manner desired. It would not be appropriate to take up the general problem in question here; but it may be remarked that in the young child's thinking there is probably no such uniform, orderly procedure as appears in the typical English sentence of direct discourse. Take for illustration the following: "Papa — sleep — baby — Anna" (Papa, Anna is putting baby to sleep). Again: "Papa — glasses — hard — bath-tub — fall" (Papa's glasses fell in the bath-tub hard). If these expressions are a faithful index of the child's mental processes, they indicate that the most impressive thing or phenomenon in a situation becomes focal in his consciousness, and tends to realize itself in speech first of all, though according to the logic of our speech something else should precede. School children often occasion their teachers much trouble by using elliptical sentences, in which they express what is focal in their thought, though the expression lacks logical sequence and completeness. However, it is probable that the

sentence form, when it becomes established through imitation of the usage in the environment, must be followed on the linguistic side, even if the elementary ideas to be conveyed appear originally in some different order. When an adult's glasses fell in the bath-tub, he might have in the focus of consciousness in his immediate reaction the notion of their not having been broken; and still when he came to express it formally he would reach this notion last in ordinary discourse;¹ whereas the child would give it first. The adult has adopted the conventional model, which acts as a restraining force upon him in respect to the ordering of his ideas in expression; but the child is still free in a measure to convey his impressions in any order in which they present themselves.

7. Word Order in Negative Constructions

In the use of the simple negative all children seem at the outset to place it after an affirmative. "Me — down-stairs — fall — *no* " indicates in principle the method of denoting negation in the earliest stages of sentence construction. The sequence of terms in an affirmative statement may be different in different cases, but there does not seem to be variation in regard to the placing of the negative. Before a special negating symbol is differentiated, the function is performed by a head-shake. The children I have

The affirmative form precedes the negative.

¹ Of course, the adult may express first the notion focal in his attention, as when he says, "saved," or "whole they still are."

observed all employed this concrete form very freely before they acquired the symbols *no* and *not*; and it was uniformly used in denial of an affirmative. For illustration, V. points to his oatmeal, brings his hand to his mouth as though taking a spoonful of the food, then he makes believe at eating; and finally he *shakes his head in denial*.¹ He does not first negate, and then show what he has in mind, which would, viewed from the psychological standpoint, seem to be more economical and effective. If negation comes at the beginning of a proposition, the auditor carries it on over the remaining part, which then performs the function of designation merely; but if the affirmative attitude comes first, it must be displaced by the negative one, and this necessitates delay in apprehension, and waste of energy. In negation the affirmative attitude ought not, as a general thing, to be instituted at all, although it is possible that under certain conditions the negative effect may be intensified when it follows an affirmative and negates it, as when an orator, eulogizing his hero, exclaims, "He was a coward, No!" But it is clear that, in a case of this sort, the auditors are not really led to take the affirmative attitude when the affirmation is made, since the previous attitudes that have been aroused by the speaker make it impossible. And then when one makes a statement for the simple purpose of negating it, he indicates in his intona-

¹ Later he may simply point to any article of food he does not wish, and shake his head in denial.

tions that he is not really affirming a statement, but is rather putting to himself a question for the sake of replying thereto so as to dispel any doubts in the minds of his auditors. As a general principle, it seems that effective style usually observes this law of economy and efficiency, — of preventing the awakening of an affirmative attitude when a negative one is desired.

In this connection mention should be made of children's tendency to use the double negative. "I *haven't* got *no*" The double negative. this or that is a typical form of negative used freely in the early stages of linguistic development, and it tends to persist in spite of much correction and exhortation.¹ It is significant that untutored people generally employ the double negative; and it is found in early English writers. "I haven't any of" this or that comes with considerable difficulty, according to my observations. It is preceded usually by "I hain't got none." Apparently "I haven't any" is not as strong, judged from the learner's standpoint, or that of the untutored man, as the "cruder" expression. Even when reared amidst the best linguistic forms, the child finds "I *hain't* got *no*" best adapted to his needs.

Observe a boy of five or six vigorously denying possession of some object which one of his fellows has charged upon

¹ There is something in children's speech of the nature of a double affirmative, too. V. says, "Papa — drink — pan — out — yah" (Papa says I can drink out of the pan, yes). Again, "Papa up stairs, *yah*"; "My go down town — *uh*, *huh*" (yes), etc.

him, and note how necessary it seems to be for him to use this typical barbarism. His dynamic, uninhibited disposition requires forceful terms, forceful in sound as well as in significance. In adult communication it is not so essential to use mechanically forceful terms, since the mature mind can add force as required out of its own experience; simple, restrained expression may arouse the deepest feeling and most vigorous action. But it is otherwise with the immature mind; it must be stirred by the very impact of the stimulus, linguistic or otherwise, which is applied. It will be remembered that in preceding chapters it has been found necessary, in order to explain certain of the child's usages, to call upon this principle, — of linguistic forms being determined by the undefined *feeling* the user has of their adaptability to produce the effects he desires. What he wants is obvious results in the reactions of people, and he goes after them without regard for grammatical customs suited to an advanced stage of mental development.

Summary.

Summing up the principal points made in this chapter, we have the following: —

1. As parts of speech are differentiated from the original sentence-word to express increasingly complex mental processes, so the parts of speech themselves are differentiated to express special relations in thought.
2. Three factors coöperate in determining the child's use of inflected forms: (a) increasing differentiation of experience; (b) imitation, both mechanical and reflective; and (c) habit.

3. In the inflection of the noun, the nominative form only is employed at the outset. This is used to discharge possessive function until the child has progressed quite a distance in the mastery of the sentence.

4. The novice does not experience much trouble in the use of the plural forms of nouns when they are regular, but he generally goes astray on the irregular forms.

5. The correct grammatical use of the various forms of the pronouns comes only after much experience. The child at the outset gives the names of each person in a group when the adult would use *we*. *He, she, our, they, his, their, hers, them, who, its, whose, and whom* are mastered in the order given.

6. The child meets with special difficulties in mastering the inflections of the verb; his feeling for regularity and uniformity in experience, and his tendency to organize his experiences inductively, are often a handicap to him in handling his verbs, as when he says, "I *seed*," "I *runned*," "I *drinked*," etc.

7. The learner always has trouble with the tense forms of the verb. By employing gesture, grimace, etc., he makes the form for present action express simple past and simple future action for some time.

8. When the child begins to use any of the special conventionalized forms for action in the past, it seems to be first the participle used adjectivally in large part. In employing participial present perfect and pluperfect tense forms, the child is really describing a situation, speaking psychologically, rather than stating the sequence of events in the past.

9. The future perfect tense is rarely used spontaneously until it has been studied in the school, and even then it is sparingly employed.

10. The simple future appears later than the simple past tense. The child has little difficulty in expressing the continuance of action in past and in future time, though the latter is heard much less frequently than the former.

11. *Will*, used to express simple futurity, appears considerably later than *shall*; it seems to be better adapted to the nature of the young child.

12. The imperative mode presents no difficulties to the child, once he has gained familiarity with a verb.

13. *Can* is used for some time in the place of *may*; the latter term is not as "strong" as the former. *Could* is used for some time in the place of *might* and *should*.

14. The child very readily inflects nouns so that they may discharge verbal function.

15. Comparative function is at the outset expressed by grimace, gesture, etc.

16. With the young child the feeling of value arising from the comparing activity is much less consequential than that arising directly from a present vital experience.

17. The first inflected form of a modifier to appear is the superlative of the adjective. From the psychological standpoint, there is no reason why the superlative form should not be used to express all comparative relations.

18. When the comparative form is once impressed upon the child, he often tends to use it on all occasions where objects are compared.

19. Children avoid the *less* and *least*, and *fewer* and *fewest* constructions, using in their place other forms that meet their needs very well.

20. At the outset the child violates some of the simplest principles of concord, as "I are," "I is," "The dogs runs,"

etc. The rules for concord in the English language are in many instances purely arbitrary, and it is inevitable that the child, following his tendency to treat new linguistic situations analogically, should make many grammatical blunders.

21. The novice has difficulty usually in the right grammatical use of the relative pronoun. *What* is often used for *who*, *which*, and *that*.

22. There is a lack of uniformity in the place relations of the several parts of speech in the child's sentences. These sentences are exceedingly plastic in respect to the order of the words. They may not appear in the same order in different sentences constructed by the same child.

23. It is probable that the word order in the child's sentences does not correspond always and exactly with the sequence of elementary ideas expressed in the sentence.

24. In negative constructions, the affirmative form precedes the negation.

25. The child uses the double negative, probably because it seems more emphatic than the conventional mode.

CHAPTER VI

DEVELOPMENT OF MEANING FOR VERBAL SYMBOLS

1. Inheritance of Meanings

Linguistic inheritance is of a social, not a physical, character.

WE have seen that the child comes among us the heir of all the ages of linguistic evolution. But his heritage is of the nature of social, and not of physical, heredity; that is, in order to profit by the linguistic achievements of the race he must *learn* them, either by more or less incidental imitation and assimilation, or by deliberate effort for a purpose. He does not inherit a single conventional symbol which he can use to denote the object, phenomenon, or situation which in the course of racial evolution it has come to designate or describe. Now, theoretically, all verbal symbols have a more or less definite content established, in most cases, as a result of long ages of racial experience. This does not mean that any particular symbol, as "virtue," say, has the same meaning for all who see it, hear it, or use it. On the contrary, it is generally recognized that the content of any word differs to a greater or less extent in different minds; and the more general and abstract the term, the greater the likelihood of variation in its signification. Nevertheless, these variations concern the more particular and special references of symbols, and not their

fundamental meanings. There is a general and basal meaning (possibly *feeling* would be a better word) for the term "virtue" which all persons possess who can be said to have any comprehension of it at all. With increased experience, either in thought or in action, this general attitude or understanding becomes differentiated and particularized in one direction or another. To the educated man, who has had richly varied and vital social contact, "virtue," while denoting certain general attitudes of persons which every one appreciates, will denote in addition very complicated social and moral attitudes. Of course, such a man will be greatly influenced in the meaning he ascribes to "virtue" by his sense of the situations which the people in his "class" in the community use the term to describe, and he will be influenced in the same way by the literature which he reads, and in which the term occurs; but being a man of large social experience, he will, to some extent, develop particularized meanings of his own. He will extend the general attitudes denoted by the community use of the word to relations not included therein. However, to the man of limited experience, alike in thought and in deed, or very special experience, who, on this account, has not been placed in situations where complex factors have been operating, where there has been conflict of motives, where diverse interests have clashed and variation has been an important factor,—the man who has lived under uniform conditions, and these of a simple character,

will not, speaking generally, read varied particularized meanings into the term "virtue"; he will follow the general community usage of the word. These particularizations appear only as a result of a stress of circumstances, where complex conditions require pruning here and extension there. Thus, as educative experience accumulates, the terms which relate to it will be constantly changing in their relation to the more subtle phases of the experience; and this is true of racial as of individual evolution.

Evolu-
tionary
changes
in mean-
ings.

The principle in question here will bear emphasis. Most symbols must have more or less special meaning for individual minds, according as the sort of experiences to which they relate have been greater or less or of a different character in different cases; but at the same time the symbol in its fundamental meaning will be understood in much the same way by practically all the persons of any age and community. Emphasis is placed on *age* and *community*; for words, particularly those having somewhat abstract signification, are subject, like all biological phenomena, to evolutionary changes. It is a very simple linguistic fact that "virtue," to keep to our typical symbol, did not signify just the same attributes to the people who invented it that it signifies to most of the people who use it to-day. Philologists, such as Max Müller, Whitney, *et al*, maintain that all our terms denoting attributes of mind or character and the like originally referred to physical objects or characteristics or events. Thus "virtue" in its early

history signified the conduct of a strong, courageous, virile man, when placed in physical situations. But as mental development has proceeded in the race, social and ethical relations have become ever more prominent in thought and expression; and while certain words have been coined to supply the need, still this need has been more generally met by extending the reference of symbols already in use. As a matter of fact, in the evolution of thought respecting mental and "spiritual" attributes and phenomena, the transition is always very gradual from physical attributes and phenomena. Things mental are interpreted in terms of things physical; literature abounds in allusions to a *strong* mind, a *sharp*, *keen* mind, a *well-cultivated* mind, a *polished* mind, etc. With evolution the physical meanings of terms relating to mental and ethical objects and relations constantly decline, but they probably never entirely disappear. It happens inevitably, then, that, given a body of verbal symbols, that community which occupies the highest place in psychical development will use these terms with more distinctive non-physical reference than will a community living on a low psychological plane; but yet their fundamental meanings will be the same in both communities.

2. Extent and Content of Meaning in the Child's Symbols

Our problem relates specifically to the course which the child pursues in acquiring the significations which the persons in his community attach to the terms he hears, and

Abstract symbols often have concrete meaning for the child at the outset.

later sees in his reading. It has been my experience that when children are first learning words employed by adults in an abstract way, they usually give them concrete reference. Passing over the terms that are never used except concretely, I may illustrate the principle in question by H.'s interpretation of the term "vanity" in her seventh year. It meant to her *a person looking in a mirror*. She got this notion in part from a picture bearing the title *Vanity*, and representing a richly attired young woman viewing herself with evident pride. H. apparently missed everything in the situation but the simple act of looking at one's self in a mirror, and, of course, her word came to connote just this. So far as one could tell, the word did not include the notion of looking at one's self *with pride*. Evidently the expression for pride was not sufficiently impressive to arrest H.'s attention. Her notion was not amplified or even modified by the remark of an adult who was present, and who observed, "People who look at themselves in mirrors have vanity." It is doubtful if H. had previously come across the word in her reading or conversation in such a connection that it caught her attention; but if she had she could have hardly read meaning into it, except in a most indefinite way. She might, perhaps, have felt that it had reference to something people do not quite indorse. Probably this is, in principle, the first step the young always take in dealing with new terms. They are able to gather from the context that the word is

Or else their significance is apprehended in only a very indefinite way.

somehow associated with pleasant or with unpleasant experience, with things forbidden or allowed, and so on. Ask a child who is taking this first step to give you the force of a paragraph, and he may be able to do it quite well; but when he attempts to define special words you may pick out, you may find he is utterly unable to do so. His understanding is likely to go no further than the general bearing of the total thing, without an adequate appreciation of just what part each element plays in producing the effect of the whole. His mental content established by the paragraph is undifferentiated; or in some cases it may concern a more or less unimportant aspect of the thing or situation in question. It is probable, though, that all terms which do not relate quite obviously to concrete situations in the learner's immediate environment will be reacted upon in the beginning in the indefinite, non-specialized, or misprised manner indicated.

We may notice here the tendency of the child to use certain of his first concrete words with extraordinarily broad extent. Sully cites an instance where a child, having heard the word "quack" used to designate ducks on a pond of water, extended the term to include the lake and water in general. In a previous chapter I mentioned the range of meaning of the word "ndobbin" as used by K. during her second year. It denoted not only all kinds of food and drink, but the dining room, the kitchen, food receptacles, the closet where malted milk tablets were kept,

Concrete terms commonly have far too broad extent in the beginning.

apple trees, and even the motions and sounds made in eating. Darwin¹ noticed that when his child was a year old he invented the word *mum* for food. This he used "as a substantive of wide significance." He called sugar *shu mum*; and after he learned the word "black" he "called licorice *black shu mum*." Preyer's boy used the word *atta* with fifteen different meanings. This phenomenon is no doubt due in part to the child's linguistic poverty; but it is probably due in part also to his tendency to conceive as wholes situations which the adult would not regard in a synthetic way at all. Objects which have only a contiguous relation with one another in the world are less likely to be unified in the adult's than in the child's consciousness. With the adult, an individual thing may be isolated from its milieu, and dealt with as a distinct object, because experience has shown that it has a distinctive character. But it is otherwise with the child; mere contiguous relationships in nature are apt to function in his mind as vital and essential. To the latter, the duck is just one element of a total situation taken in at a glance; it cannot be isolated completely and regarded as a thing-in-itself, because the child has not had vital experience with it as a thing apart, which would serve to give it individuality, to establish it as an object to be reacted upon in a special way. It is probable that situations in the environment, like that of the duck and the lake, are not differ-

¹ See his "Biographical Sketch of an Infant," "Mind," Vol. II, p. 292.

entiated until the child discovers that the various elements affect him in vitally different ways, and must be dealt with, each in a very particular manner. These experiences in adjustment lead to breaking up total situations in the environment, and differentiating the elements thereof in attention; and of course enlarging experience may lead to integration again on a grander scale, as it is discovered that objects, even if not contiguous in space, may be reacted upon in much the same way. But the point to be noted here is that, as a general principle, with increasing experience, objects originally merged in a total complex slowly gain individuality, and so come to stand out prominently in the original patterns, and in time, if they are of sufficient value in adjustment, they may get freed altogether from their primordial connections.

Students of child linguistics have not, it seems, attached sufficient importance to the disposition of the child under certain conditions to use his terms with extraordinarily narrow extent. To illustrate the principle, a child was greatly impressed with the horns of a buck the first time he saw him. The father used the term "sheep" several times while the creature was being inspected, and it was discovered afterward that the child had made the association between the word and the animal's horns, so now *sheep* signifies primarily horns, whether seen in pictures or in real life. Numerous illustrations¹ of this principle are given

And again
they may
have very
narrow
extent.

¹ See, for example, the instances cited by Chamberlain, *op. cit.*

farther along; but the principle I wish to emphasize here is that often a novice is impressed with a more or less unimportant detail of a situation, and the language of the adult in referring to the situation is given far too narrow meaning.

Parallelism in evolution of ideas and linguistic ability.

It is a commonplace that during the period of development one's notions of most objects with which he comes in contact must be constantly changing to a greater or less extent, at least in details. Increasing experience brings out new factors, develops new relationships, emphasizes particular elements in even familiar things.¹ In another connection,² an attempt has been made to trace the developmental order in the elaboration of typical idea-complexes, and to show in what epochs, or rather in what sequential order, typical notions are modelled into permanent form most rapidly. Now, this change with development in the content of ideas must be revealed in the child's use of symbols and his interpretation of them, though it is probable that evolution in ideas and in linguistic usage do not run precisely parallel. In some cases linguistic forms tend to get set for a time, and so they do not keep pace

¹ The principle at issue here is recognized, though in its relation to arrested linguistic development, in the following from Chambers ("How Words get Meaning," *Ped. Sem.*, March, 1904, Vol. XI, p. 48): "Perhaps the only — certainly the greatest — cause of prolonging the period of vaguely right meaning in the growth of a word's content is overemphasis on some specific application of the word. This emphasis so fixes the particular meaning that the concept is arrested at that point and develops no further."

² In my "Education as Adjustment," Part III.

with the changes taking place in mental content. In other cases the learner mechanically imitates expressions before his thought warrants or requires their use. So it is never safe to advance definite statements about a child's thinking, using his language, measured by adult standards, as the sole criterion.

In this connection a word may be said respecting the results gained by Binet,¹ Hall,² Barnes,³ and others in their studies upon the contents of children's minds, and the definitions they give for familiar words. Take, for example, a question like this: "What is the sun?" The youngest children's responses almost universally have reference to its shining or its being round like a ball in the sky. Older children in the grammar school refer to its heat- and light-giving properties, its making things grow, its supporting life, and so on. And pupils in the high school generally speak of it as an astronomical body, mentioning its relation to the earth, etc. Asked what becomes of the sun when it sets, children at first say it goes into the ground, or into the lake, or behind the hills, or back of the clouds, or God takes it into heaven, or He puts it to bed, etc. Children of older years, however, use terms gained from their geography lessons or from talks on astronomy by the parents or the teacher.

¹ *Perceptions d'enfant, Revue Philosophique*, Vol. XXX, pp. 518-611.

² "Contents of Children's Minds on entering School," New York, 1893.

³ "How Words get Content," in "Studies in Education," Vol. I, pp. 43-61.

What is thus true in respect to statements relating to this particular object is true in principle of all objects whatsoever with which the child has relations. The terms he employs to describe them change as he develops, for the reason principally that his notions of the objects change to a greater or less degree as his experience becomes more generous and intimate; but it is certain that at times his experience grows faster than his linguistic ability, and at other times he acquires terms beyond what his experience requires.

Chamberlain¹ has recently given the results of some studies on his child, which illustrate the principle in question, and also principles referred to above, where the child uses conventional terms with too broad extent in some cases, and too narrow extent in others. Of course, one cannot say that these statements indicate exactly what the child understands by a given term; but they probably show what is uppermost in consciousness when the term is used, though special conditions of the moment may have brought into the focus factors which, under other conditions, would not appear.

Chamberlain gives his child's responses to the question, "What is . . . for?" when she was thirty-three months of age. The following are typical "definitions":—

School: All the children do (go) in, an' ladies and dirls.
Church: Why, the people do in an' ting (sing) and ting an'

¹ See the *Ped. Sem.*, Vol. XI, pp. 24-263, 413-451.

ting. *Store*: People do in an' buy tomes in for zeir dinna'. *Book*: Why, it's a book to read. *Window*: Why, that's a window to look out. *Clock*: Why, it's to wind it up. *Picture*: To look at. *Pen*: It's to write wiz. *Paper*: It's to write on when I write on. *Street*: To do out on. *Water*: To trow 'tones in. *Trees*: Wind blows the trees down; they burn the trees down in the woods. *Flowers*: They are to 'pell (smell). *Dogs*: Why, dogs are to tay bow-bow-bow! *Doors*: To chut the doors. *Knives*: They are to tut. *Forks*: They are to eat wiz. *Cups*: They are to drink out. *Spoons*: They are to eat toffee wiz. *Fire*: Is to burn things up. *Ice*: Ice is told. *Milk*: It's to drink. *Tea*: It's to eat. *Coffee*: It's to eat wiz a 'poon. *Safety-pin*: To pin your dress wiz. *Oranges*: They are to put on the table. *Potatoes*: They are to took (cook). *Lettuce*: They are to put on talad. *Scissors*: They are to tut. *Sewing-machine*: To tew. *Refrigerator*: It's to put thing in. *Plates*: They're to eat on. *Salt*: It's to put on meat I duess. *Candy*: It's to eat. *Letter*: It's to put paper in. *Stamp*: To post envelopes. *Lamp*: It's to light. *Stove*: Why, it's to warm things on. *Oven*: To put things on. *Mamma*: You are the lady. *Father*: He's a man. He's a tather. *Ruth*: I'm a little dirl. *Bath*: To have dollies in to wash. *Nose*: It's to 'teeze (sneeze). *Horse*: To ride in. *Cow*: To milk. *Mouth*: To eat. *Picnic*: You eat the pickinick before it gets bad. *Smoke*: 'Poke is to tome out of 'poke-tack. *Table*: This is a table to eat. *Chair*: It's to tit on. *Broom*: It's to tweep. *Mirror*: A mirror's to look in. *Eyes*: They are to look at pictures. *Chimney*: It's for tanta tlaus to do in. *Fly*: To fly around. *Ground*: The ground is drass and dirt to dig. *Rooster*: He's to tay whr-u-whr. *Birds*: They are to ting. *Key*: To lock the

door with. *Money*: It's to put in my pocket-book. *Garden*: It's a darden to put radishes on. *Piazza*: To do (go) out in our back yard. *Houses*: They are for people to do (go) in. *Lemons*: Why, they are to put in a pitcher an' to eat. *Chickens*: They are to do in their own little house. *Butter*: Butter is to put on bread. *Pepper*: Why, pepper does (goes) right in your nose. *Umbrella*: To do (dū) around your head this way (making gesture with hand; she then said she would get the umbrella and show how — this she did). *Wheels*: Wheels are to belong to wagons. *Spool*: To put on needles. *Piano*: It's to play on. *Wall paper*: Is to not trats (scratch) it. *Frog*: Troggs are down in the water. *Fence*: A fence is to do (go) around here (making a circle with her finger). *Ham-mock*: Why, it's to twing. *Hammer*: To put tacks in. *Type-writer*: Why, it's to typewrite on. *Snow*: Tow is to draggle in. *Leaves*: Why, they are to drow (grow) over. *Beads*: They are to put around your neck. *Carpets*: Why, they are to put on the floa'. *Hair*: It's to put on your head. *Hills*: They are to do (go) up and to walk into Boothbay Harbor. *Stones*: They are to trow in the water. *Soap*: It's to trub (scrub) your hair. *Wagon*: It's to ride in — Tam's wagon. *Towels*: They are to wipe your face wiz. *Rubbers*: They are to put on your teet and not let 'em be wet. *Balls*: They are to bounce. *Balloons*: To 'tick (stick) out the window an' let 'em blow. *Babies*: To put in tarriage. *Bicycle*: By'cles are to ride on. *Bumblebees*: They are to do (go) on flowa's. *Curtains*: They are to put on the window. *Bottles*: They are to put in ginger-ale. *Napkins*: They are to put round your neck.¹

¹ The reader will notice that some of these "definitions" are really not definitions in the dictionary sense at all, but only simple statements of the child's first reaction upon the objects in question.

3. Reaction of the Alter in determining Meanings

We have seen some of the forces at work pruning, amending, and extending the child's interpretation and use of conventional symbols during the non-reflective period, but one of the most potent factors of all has only been hinted at. This factor, which is so effective in bringing the child's interpretations and usages into accord with community or racial interpretations and usages, is the reaction of the social environment upon his linguistic performances. Any interpretation or usage of a symbol which fares well and produces the desired effect—anything which will pass with the child's associates—will tend to persist in his vocabulary; but any interpretation or usage which is not hospitably received, which is laughed at or criticised, or which is not reacted upon in the desired manner, must be abandoned, and something more effective put in its place.

The principle illustrated.

For illustration, S., at four, began to use the word *imagination*, first in a more or less spontaneous or playful way, apparently, for he would apply it to any undesirable quality in objects, animate or inanimate. Judging from the occasions on which he employed it, and the accompanying tone of voice and facial expression, he evidently thought that for a thing to have imagination was not quite proper. To say "he was imaginative," or "it has imagination," was to find fault with the person or thing in question, though not in any very serious manner. Now, he must have

gained this feeling about "imagination" from the way in which his elders used it originally in his presence; they applied it to a child who did not represent exactly the thing or situation he was describing. So in reality "he has a lively imagination" had the effect of a mild reproach. S. caught the general attitude, but he missed the particular denotation of the word, and so for a period it became his term for moderate censure. But it could not remain stationary long, for his auditors reacted in ways which made him realize that he was not using it correctly. When S., trying to drive a nail in a box and being unable to prevent its turning over on him, finally gives vent to his feelings by exclaiming, "You old thing, you have imagination!" every one within reach makes merry at his expense. H., who has entered the "tormenting" age, takes up "imagination" and makes fun over S.'s use of it. She says, with suitable intonation and grimacing, "I should say nails must have a fine imagination!" "I wish, S., you would ask them what their imagination is about." "I'll tell my teacher that S. has a nail that has imagination." And so she runs on, and S. is profiting by the experience. He gains the feeling that the word was not used right on that occasion. It must be that "imagination" does not belong to nails. Of course, he does not philosophize about the matter, no more than he does about the candle that has burned him; he simply takes note of the outcome of his action, and governs accordingly his linguistic conduct in the future.

Supplementary to H.'s raillery, which is participated in to some extent by all present, the father suggests to S. that things like nails and hammers, etc., do not have imagination, only boys and girls and men and women. This helps the novice to get his bearings; it limits, defines the range of application of his new term. But, of course, the most has yet to be done in order that the term may be moulded into proper shape. This moulding is done constantly by the assistance of the child's associates and elders, supplemented in due course by his reading, and his use of the dictionary. The learner is not in the least indifferent with respect to the reaction of the people about him upon his linguistic experiments. He becomes more and more observant of the particular sense in which any word is used by his parents, teacher, and comrades, just in the measure that his own use of it does not result advantageously. He would never give it the slightest heed if his use of it turned out happily in all instances, a principle which is abundantly illustrated in his treatment of the simpler concrete words he learns earliest, as "hat," for example, and his use of which is very likely to be in harmony with environmental custom. Then S. aids himself in another way: he seeks help from his elders when they employ the word. "What means 'imagination'?" is typical of questions children are incessantly asking from four onward, until they gain a certain degree of mastery of all the terms of ordinary usage. Finally, as suggested above,

The
moulding of
words into
proper
shape.

when S. comes to read for himself, and sees this term in many contexts, and when he "studies" it in school, making use of a dictionary, perhaps, the moulding process goes on most rapidly, and in due course is brought to a greater or less degree of completion; though it is probable that for many individuals the development of such a term as "imagination" never reaches completion, in the sense that its meaning does not further change in any respect. Such in general outline is the natural history of every symbol of which "imagination" is typical.

The child's
vocabulary
as a growing
organism.

The attempt has been made on preceding pages to impress the fact that a child's vocabulary resembles a developing organism. At any moment there will be found in it words, phrases, and expressions well-nigh matured, so that they will change but little throughout all the events of later life. These words and phrases relate to the individual's most familiar and well-defined experience. But at this same moment there will be found other terms, phrases, and expressions in all stages of immaturity. Some will be in the germ-cell stage even, so that the entire course of development lies before them. These are the terms and phrases that relate to the very newest and most remote of the child's experiences. Then there are words and phrases which are afloat in the child's environment, and he catches them up and plays with them, having only the dimmest sort of notion respecting their significance; or he may have an entirely erroneous notion of their meaning.

But he will try them on in his expression in a more or less incidental way, and then the maturing process will begin; the moment he gets social reaction upon his usage, that moment the word starts on its developmental course. Thus, as new realms of experience become familiar, the terms relating to them are mastered; and the movement of growth is always in the direction of the regions yet to be subdued. This general principle has been well expressed by Chambers,¹ and I may quote a few of his sentences. . . . "In the early years of life the child has an accurate knowledge (if, indeed, he can be said to have *accurate* knowledge of anything) of only those things which are most immediate and familiar, and an adequate reaction for only those situations which are fairly constant or frequently recurrent; outside the realm of familiarity is a region whose objects are slightly known and whose situations are met by the child in a bungling sort of adjustment; beyond this field, again, is a zone of mystery, of illusion, of mistakes and failures in adaptation. And finally, beyond it all is the region of the great unknown, and the region whose objects, personages, and situations have never yet directly affected the child's life in the slightest degree. The child unquestionably perceives the world through a mental fog. But as the sun of experiences rises higher and higher these boundaries are beaten back. Things are constantly projected from the great unknown into the region of mystery,

¹ *Op. cit.*, p. 30.

illusion, and error. The formerly mysterious and mistaken becomes the vaguely perceived, the slightly known, the clumsily used; while what is partially understood is transformed into the familiar and perfectly-adjusted-to affair of common experience. Farther and farther do the boundaries recede, narrower and narrower do the outlying zones become, until in the mature scholar the circumference of the circle of things clearly understood and situations adequately reacted to has become coincident with the boundary of human knowledge in his field. Then the only condition of his perfect understanding of any new object or situation projected within his horizon is the focusing of his apperception-mass upon it."

4. Apperception in the Gaining of New Symbols

The general principle of apperception applied to linguistic experiences.

At various points in the preceding discussion attention has been called to the influence which previous linguistic experience exerts upon present reaction in a new linguistic situation. But there is a special phase of the general matter which needs mention here. Words that are somewhat similar, in either sound or visual form, are likely in the early stages of learning to be interpreted and used as having exactly the same significance. This tendency is of immense importance in the learner's linguistic development.¹ For one thing, by means of it he greatly econo-

¹ In passing it may be mentioned that visual and auditory similarity often lead the pupil astray temporarily. A beginner comes across the

mizes his time and energy, since he can assimilate new words through others that he has already mastered. Take, for a very simple illustration, the words *new*, and *newness*, *newly*, *new-born*, *New Year*, and *new-mown*. Each one of these terms has a special significance which is denoted but in part by the term *new*, and the learner can get this special meaning only by coming upon the term often in different contexts. But the point is that, having made an adjustment in response to the term *new*, this general attitude is reestablished whenever the learner sees the term in any connection. The particularization of this general attitude, such as is indicated by any special term, can be attained only by particular experience; but no matter how many and how subtle and refined particularizations are made, the original general attitude will always persist, and

word "cat," and he calls it "rat." The two pictures are so much alike that they come up interchangeably; and it happens now that the wrong one comes to the front. On the next occasion, however, the pupil may not make this mistake. This phenomenon may be observed to a greater or less extent in the reading of all children, and even in the case of some adults who are "suggestible" in matters of this sort. Adults who take up the reading of a foreign language make just such mistakes in principle as the child does, and for a similar reason. Any observer of children knows that they are constantly putting queer interpretations on the spoken language of adults, largely because of their catching parts of strange words and filling them out from their own store. This, of course, is simple suggestion in the field of linguistics. I shall have more to say of the general principle in the chapter on reading; and in the illustrations quoted from Barnes and Chambers at the close of this chapter there are many examples of errors due to euphonic analogy.

will be the main factor in determining the significance of the special term.

Meanings of specialized terms are determined in part by general attitudes.

In some such manner new words tend to coalesce with the known words that are most nearly related to them in form. It thus happens that families of words that denote a common general attitude, but each its own particularization thereupon, are learned in part through the first word of the group learned, whether or not it be logically fundamental. The child early learns *lovely*; then *loving*, *love*, *lover*, *loveliness*, *lovable* are, in the course of development, interpreted and used with it as a foundation, so to say. It is not necessary that the novice should understand the precise signification of *ing*, *liness*, *able*, in order that he should proceed with his interpretation; he will make a tentative interpretation anyway, just as he makes a tentative trial with his new words, to see what the effect will be. The child does not demand explicit content for all verbal forms; if he gets a general image or attitude, anything for him to work on, he will not hesitate in his reactions. If children who have passed through their third readers, say, be given interesting books to read spontaneously, they will spend hours over them, even though they cannot make out definitely and fully many of the words. So one may read to children and use unfamiliar terms frequently, but still they will be eager for him to continue if they are only interpreting enough of his language to feel

the trend of meaning. Of course, in the process of development, as the particularizing tendency becomes ever more marked, and adjustment to situations must become more and more precise, the pupil will realize the need of comprehending every term he hears or reads; but even so, it is probable that this understanding does not, as a rule, attain to the abstractness and completeness of a dictionary definition, say.

I have tested children upon many definitions of terms which they could interpret quite effectively as they occurred in the ordinary contextual relations of speech and reading; but they could not satisfy any dictionary maker in their responses. H., at five, says of *lovely*, as a typical term, "it is something you like; flowers are lovely." At nine she says: "lovely means that a thing will give you pleasure"; or "it is something you love"; or "it is something nice and sweet and good." Asked to give examples of lovely objects, she names very readily a dozen, — her baby sister, her doll, the new-fallen snow, her new story-book, — all objects which give her pleasure in her relations with them. There is not yet much appreciation of *lovely* as referring to spiritual and moral qualities except they be expressed very concretely; and yet the term is not confined so completely to physical reference as it was at four. There is a constant movement toward the dictionary conception; but as this latter is formed by men who have attained to the highest point of mental development reached by the age in which

they live,¹ it is probable that the majority of persons will always fall short of it.

5. Meaning as felt before it becomes Definitive

The child's
"I know,
but I can-
not tell"
is often
psychologi-
cally true.

In this connection it should be noted that the meaning of a term is felt in a general way earlier than it can be explicitly defined. I ask H., at seven, to define *loveliness*. I can tell from her response when the term is used in conversation or reading that she understands it in its fundamental reference, at any rate, and she can use it quite effectively; but she cannot state formally just what meaning it has for her. "I know, but I cannot tell," she says; the precise idea denoted by this term has not become sufficiently differentiated from the general content of which it is an element so that the novice possesses it as an individual thing. If I press H. for some statement about *loveliness*, she will fall back upon the simpler term *lovely*,—"when a thing is lovely, it has loveliness." Children who try to define new words, as H. does "loveliness," usually make very hard work of it, unless they have learned memoriter a ready-made definition; and they feel they know better and more fully than they are able to tell. The old dogma that what a learner knows he can explicitly define is far from true.

This characteristic of a child's language is seen in much of

¹ This statement does not mean that dictionary makers are distinguished above all others for their mental caliber; but only that they record the usage of the most intellectual people.

his linguistic activity. His expression is in considerable part indefinite, non-precise. Seated at the dining table, and recalling that he would like to get a certain object from one of the stores in the city, he may say, "I wish you would get me *that thing down there*," when there has not been any suggestion in the preceding talk to indicate what special thing is desired, or where it can be found. Suppose you say, "But what thing do you mean?" You may get this response: "That thing that turns around, don't you know? That man we met the other day had one." And you may have to follow on for several minutes before you can bring the speaker's expression to the specific object and place he is trying to designate. The speech of children from four or so onward for a few years is marked by these general expressions that must be in part the result of non-specialized and perhaps non-localized imaging. The novice seems as a rule to feel new situations in a general, undifferentiated manner, and only after much particular experience can he image special elements of these situations. However, the child unquestionably sometimes falls back upon *that thing, that man, that stuff, down there*, etc., because he lacks the precise terms to denote the exact thing or location, even though it is specific in his imagery. As development proceeds, these indefinite expressions are heard less and less frequently in ordinary discussion, though it has been my experience that they reappear when the pupil begins a new study, as physical geography, say.

That thing we studied about yesterday, *that place* we mentioned, and the like, are expressions that are called into service frequently by the novice in any study, but they gradually disappear as he becomes more familiar with the particular field being explored.

In illustration of the principles developed in this section mainly (though some of the principles developed in preceding sections are involved), it may be of interest and profit to quote at considerable length from studies made by Barnes¹ and Chambers² upon the content of familiar words. Barnes presents us with a detailed study of fifteen hundred answers gained from Boston and London school children to the question, What do you mean by the word "armor"? The answers may be given without further comment than the author makes. In discussing the results, he says:—

Not many of the children in American schools have ever seen armor, and yet there would be few if any children nine years old who would not have met the word in reading; and nearly all must have had pictures before them in which armor was represented. It is a concrete and picturesque thing, with a special interest for children; it can be easily described and easily taught through pictures; and since children's knowledge of it would not be apt to come through every-day life, it is a good word with which to test the way in which formal education gives content to words.

In analyzing the children's answers, we find they fall into two groups, those showing a negative content and those show-

¹ *Op. cit.*, pp. 47-53.

² *Op. cit.*, p. 33.

ing a positive content. Those showing negative content are blank, or else are absolutely wrong; those having a positive content are more or less vaguely right, or they rise to correct knowledge and declare that armor is something worn, generally made of metal, and intended for protection.

The papers that came back blank, or simply inscribed "I do not know," represent the children who have no available content for the word. Twenty-three per cent of the papers, 19 per cent of the boys' papers, and 27 per cent of the girls', are in the "no answer" group. Armor is a boy's term, and the boys know more about it, age for age, than the girls do. Arranged by ages, the proportion of those who have no knowledge which we can reach by this test runs: —

AGES:	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.
Boys:	—	34%	21%	18%	11%	12%	14%	11%
Girls:	40%	31%	38%	27%	34%	16%	23%	21%

Thus we see that the number of those who have no content for the word vanishes with a fair degree of steadiness as the children grow older; but at fourteen there are still 21 per cent of the girls who have no content for the word.

By a wrong answer, for the purposes of this study, we mean one absolutely wrong, into which no correct element enters; an incomplete answer is not counted wrong; neither is one that contains error, if it contains any germ of truth. One-fifth of the girls and one-third of the boys at eight years old have a wrong content for armor; but by the time the children are fourteen, only two in one hundred have a wrong content. The proportions for the years are: —

AGES:	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.
Boys:	—	34%	15%	12%	6%	4%	2%	2%
Girls:	28%	18%	18%	17%	5%	7%	2%	2%

A study of these absolutely wrong answers is in many ways instructive. One group is evidently derived from euphonic analogy. Thus "Armor" is to hold a thing by your arm; "means your arm more;" "armor is arm;" "title given to Arabic rulers" (Ameer); "is a river" (Amoor); "man that tends an armery;" "an ancor;" "a man that plays the ogan." One cannot be positive that he has rightly interpreted the child's meaning in these cases, but the errors are evidently due to euphonic analogy. Note that the word misapplied is very often misspelled: "ancor," "ogan," "armery." The hazy sense of the true form of the word leads easily to such substitution.

In America several of these mistakes come through association with the armories so common in our larger towns and so often used for public meetings. Thus we have several who say: "armor is music;" "a place where you see pickers;" "a safe place;" "a kind of band;" "where men work." The well-known Chicago meat packing-house leads several to say, "It is a man's name;" "a company that packs;" "a kind of beef;" "a beef company."

A considerable group of mistakes seems due to a dim association of the word with stories of heroes, where the qualities of the wearer have passed over to the armor. Thus the papers say: "armor is brave;" "strong;" "a brave sailor;" "strength;" "protector;" "a true man;" "a prince that takes care of a nation;" "a ruler;" "a defender;" "a knight."

The idea that it is some sort of clothing is very common. About 5 per cent give this meaning alone. It takes many forms "a plain suit;" "a sort of badge;" "a grand dress;" "a belt that a soldier wears;" "some kind of uniform;" "a kind of sparkling ornament that shines like gold." It may be said that it is unwise to class these last two groups

as entirely wrong since they contain some rudimentary truth. They are certainly on the dividing line, and they might be put either with the vaguely right or with the wrong answers.

The fact that at eight, twenty-five children out of a hundred give a wrong meaning to the word, while at fourteen but two in a hundred do so, is not alone due to the fact that at fourteen more of the children know about armor than at eight, but it also marks a changed mental attitude; the child at eight lives in a haze of undetermined meanings; at fourteen the horizon has cleared enough so that when he does not know he does not guess.

If we next consider those definitions that have some right content, or are wholly right, we find them developing as follows: —

AGES:	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.
Boys:	—	32%	64%	70%	83%	84%	84%	87%
Girls:	32%	51%	44%	56%	61%	77%	75%	77%

This is a steadily growing strand of tendency; but when we analyze the answers carefully we find that nearly half these children who are in some degree right do not get beyond a vague association of the word "armor" with war, armies, soldiers, or protection. The percentage of children who have some part of the content right, but have not yet a full content for the word, is: —

AGES:	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.
Boys:	—	22%	36%	38%	38%	28%	31%	15%
Girls:	32%	47%	33%	43%	40%	31%	31%	28%

This line is least regular in its development of any we have had, because the answers it represents are on the border of intelligence, and while some children pass each year from it to

correct knowledge, others crowd in from the fields of no knowledge and wrong knowledge. The content in this group grows through every form of associated half knowledge. We saw it beginning in attributes and clothes. In the present group of answers it is sometimes almost as vague: "When I hear the word armor I think of the soldiers," says a boy of nine. Other examples are: "It means to armor when you fight;" "an armor is a man who is armed with things;" "it is about war;" "the saddle of a horse in war to protect the body;" "I think the word armor means cartridge;" "one who uses arms when shooting;" "it means your breast;" "a kind of sheath;" "a band of steel;" "something that soldiers put their food in;" "a large army of men;" "a number of soldiers;" "a little boy who soldiers;" "a defender of blows;" "a body of iron;" "stuff that they use in battle."

From these distant wanderings in the world of the true, the child comes nearer to the heart of things. "A man that has a brass plate to protect him is called an armor;" "a large sheet of steel put over the body;" "a kind of mineral which soldiers ware when they go to war;" "it is something like a shield all over you;" "it is war clothes;" "it is what you are in;" "a man with iron all over him;" "a man who puts iron all over himself as the knights did in olden times." These last answers are all very close to the truth, and some of them seem adequate. If we take as a full definition for our purpose a statement that armor is something worn for protection, the following table shows the percentages of American children at each age who have a correct content for the term:—

AGES:	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.
Boys:	—	10%	28%	32%	45%	56%	53%	72%
Girls:	—	4%	11%	13%	21%	46%	44%	49%

On the whole, American children have a better working content for this set of words than have the children in the London Board Schools; but with the word "armour" the London children are decidedly better than ours. The comparison, on the four lines examined, gives the following results:—

NO ANSWERS

AGES:	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.
America:	40%	33%	30%	23%	23%	14%	19%	16%
London:	—	33%	23%	9%	1%	1%	1%	—

WRONG ANSWERS

AGES:	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.
America:	28%	24%	17%	15%	6%	5%	2%	2%
London:	—	5%	9%	7%	1%	—	1%	—

VAGUELY RIGHT

AGES:	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.
America:	32%	35%	35%	40%	39%	30%	31%	21%
London:	—	45%	42%	35%	36%	33%	30%	—

CORRECT

AGES:	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.
America:	—	7%	20%	23%	33%	51%	48%	60%
London:	—	16%	26%	48%	61%	64%	68%	—

The general law of development is the same in the two countries; but the London child lives in an old historic atmosphere, surrounded with museums and shop windows full of armor, and constantly seeing pictures of the national heroes in coats of mail. The comparison well illustrates the power of environment; that is, of education, to hasten the growth of content.

This is all that education can ever do; it can never give a full and correct English vocabulary to eight-year-old children; it can simply hasten growth. The comparison also illustrates the well-known but sometimes forgotten fact, that even in perfecting a vocabulary the school is but one of the educational influences at work on the children. A boy is being educated in language on the street or in his home as truly as when in school.

Such studies as this often throw light, incidentally, on subjects outside the immediate investigation. Thus we were interested in recording the number of writers who associated armor with past time, as it throws a little light on the rise of the historic sense and interest. The percentages for the London children run:—

Boys:	5%	6%	17%	11%	22%	24%
Girls:	1%	—	6%	17%	25%	27%

The references seldom go beyond saying, "It is an iron coat worn long ago;" though a few say "worn in the time of King Alfred the Great;" "such as King David had;" or, "a steel coat used by knights of long ago." These rudimentary historic interests hardly exist with the little children, but become important after ten or eleven.

Chambers,¹ studying the ways in which words get content, asked his pupils the following questions:—

1. What do you mean by the word "*monk*"?
2. What do you mean by the word "*peasant*"?
3. What do you mean by the word "*emperor*"?
4. What do you mean by the word "*armor*"?

¹ "How Words get Meaning," *Ped. Sem.*, March, 1904, Vol. XI, No. 1, pp. 34-37.

5. What do you mean by the word "*nation*"?
6. What do you mean by the word "*school*"?

Note, in the answers which follow, the play of suggestion and the lack of definiteness and particularization in the responses of the younger children. As we move onward, however, answers show more precision in thinking, and a growing tendency, as development proceeds, to mention the essential characteristics in describing an object.

Paper 3. Foreign, boy, age 8.

1. The word "monk" means monkey.
2. The word "peasant" means pleasant.
3. The word "emperor" means empty.
4. The word "armor" means army.
5. The word "nation" means nature.
6. The word "school" means to learn.

Paper 5. American, girl, age 8.

1. A monk is a person who live by himself up on high mountains and had large dogs that go out and find travellers in the snow.
2. A "peasant" is a person who is poor.
3. An "emperor" is a kind of King.
4. An "armor" is a thing you wear in war to shield you.
5. A "nation" is a whole lot of states together.
6. "School" is where you go to learn Arithmetic, Spelling, Geography, Language.

Paper 6. American, boy, age 9.

1. A monk is a little animal that look like a squirrel.
2. Peasant is a poor farmer.
3. An emperor is a rich man.
4. An armor is a sword and everything a soldier needs to gard themself.
5. Nation is when a country is free from another country.
6. A school is a house wher children go and to read and write.

Paper 8. Foreign, girl, age 10.

1. The word monk means a animal that lives in trees.
2. The word peasant means
3. The word emperor means a ruler.
4. The word armor means a suit and things that you use in war.
5. The word nation means a state.
6. The word school means a place to sent children to lear Arithmetic and other steaties.

Paper 10. Foreign, boy, age 12.

1. Monk is a religious sect or person who lives in a monastery and appears to be religious.
2. A peasant is one of the lowest class of people or poorest in wealth who till the soil in Europe.
3. An emperor is a person who rules or oversees a body of people and attends to their business.
4. An armor is a coat of mail worn by the people of olden times who used it to protect them. It covered them all over.
5. A nation is a body of people living in one separate country under one government.
6. School is a place or house where children, men or women are educated or taught.

Paper 11. Foreign, boy, age 14.

1. The word "monk" means to me that it is the name of man who has made a vow for a certain time to live a devoted and quiet life in a monastery.
2. The word "peasant" means to me that it is the name of a poor class of people in the southern part of Europe. They are very good fighters when in war but they do not try to fight on an open field but try to steal marches on their enimy and take them by surprise in the night.
3. The word "emperor" means to me that it is the name of a ruler of two nations—Germany and Austria Hungary.
4. The word "armor" means to me that it is the name of all the weapons that a soldier or sailor needs to defend himself with.

5. The word "nation" means to me that it is the name of a country recognized by the rest of the world as a strong nation.
6. The word "school" means to me that it is a place or building private or public — It is a place for learning something.

Paper 12. American, girl, age 14.

1. A "monk" is a man who lives secluded from the rest of the world and devotes his life to Christian work.
2. "Peasant" is an English word which means farmer or those residing in the country.
3. An "emperor" is a ruler. He generally rules a limited monarchy.
4. "Armor" is a steel coat or suit worn by men in olden times to protect them when in battle from the weapons of the enemy.
5. A "nation" is a body of people grouped together under one head, and obeying rules laid down by this head or by itself.
6. A "school" is a number of pupils gathered together for the purpose of receiving instruction which is given by a teacher.

Paper 14. American, boy, age 18.

1. A "monk" is a type of the human race that lived in the Dark Ages. These monks were very learned, and from them much of our learning to-day has been handed down.
2. A "peasant" is an example of the poorest class of people in many countries of Europe. These peasants live very humbly and most of their clothes they weave themselves.
3. An "emperor" is a man, who by birth, reigns over an absolute monarchy.
4. "Armor" has several meanings. One of the old suit of armor worn by the old Normal soldiers when they conquered Britain. Another is a battleship of the present era being covered with thick plates of iron and steel to protect it from injury from projectiles fired at it by other vessels.

5. A "nation" comprises many states or provinces brought together under one government.
6. A "school" is an institution for the purpose of educating children and grown people as well.

6. Some Special Difficulties in Meaning

Difficulties
with words
descriptive
of time re-
lations.

Before closing this chapter, attention may be called to a few of the special difficulties which the child encounters in getting at our meanings, and in using words with the significations which we attach to them. Words descriptive of time relations are the source of many linguistic struggles and mishaps. S., at four, says, *this night* (to-day, or perhaps this afternoon, or perhaps the night following this day, — the next night we come to); the *last day* (some day in the past, not this day); in August he said, *Yesterday* we went to the University across the ice (last winter when the ice was on the lake). *To-morrow*, *next week* or *month* or *year* all get sadly mixed in the learner's speech. V., coming to tell me the dinner chimes were rung some minutes since, utters a dozen *uh's* trying to get started on the proper expression, when he finally delivers himself of this: "It is *after when* the chimes have rung." Again, wishing to say that earlier in the day he had performed some noteworthy deed, he says, "When it wasn't this time," etc. So one might recite at pleasure instances illustrating the trouble the child has in trying to express time relations in conventional phrasology. He finds it about as difficult a task to

understand what we mean by "to-morrow," "next week," "yesterday," etc. Children are incessantly plying their elders with the questions, "When is to-night?" "When will it be to-morrow?" "next week?" etc. "When was yesterday?" "How long will it be before to-night?" etc. The terms "second," "minute," "hour" are used at the outset with no appreciation of their precise significance; the child simply understands in a general way that these terms denote the passage of time, but he is just as likely as not to speak of his having jumped his rope right along without stopping for a *hundred hours*.

It would make a long story to tell in detail just how these terms come to be understood and used with precision; but the method has already been indicated in principle. With increasing experience the child slowly works out a temporal scheme or pattern in which time relations are ever more clearly discerned. Then, as he employs terms which he has picked up from those about him to denote these time relations, the socius by his reactions enables the novice to tell whether or not he is using his terms according to the prevailing custom. And when he begins to appreciate the necessity of using his terms precisely, he learns effectively through imitation, reading, and the dictionary.

Expressions of space relations are sometimes used to designate time relations. S., at four and a half, says, "I drank my milk *in front* of my dessert;" "I played out

on the street *in front* of the kindergarten time;" "So I went in *behind* all the others" (*after* all the others were in); "It is pretty *near* noon," etc. It is probable that the simpler temporal relations of the character indicated may be easily transformed by the child into spatial relations, especially when his notions cannot find a ready outlet through temporal terms.

Difficulties
with par-
ticular
construc-
tions.

Finally, we may glance at some of the learner's difficulties in using certain common terms with their conventional significations. The novice always has trouble with his *than* constructions; *or*, *nor*, *as*, suit him better than the former term. "I am taller *as* you;" "H. has more candy *nor* me;" "Max can run faster *or* any of us," — these are typical constructions of the child just entering upon the use of sentences involving the comparison usually expressed by *than*. Again, the *either* and *neither* constructions perplex the young linguist a good deal. He will resort to a variety of linguistic devices to avoid them; and of course he can get on quite comfortably without them. Suppose he wishes to express a notion which would be handled by an adult in this way: — "*Neither* you *nor* Mamma (or more briefly, *neither* of you) must look until I am through;" the beginner will say, "Mamma not look, Papa not look, until I am through." Then when he gains a little greater facility he may make an effort at synthesis and brevity, and he will say, possibly, "*Both* of you must not look," etc., or "don't *one* "

or "*any one* of you look," etc. Later he may use something like this: "*Either* one of you must not look," etc. "*Neither* of you" is the culminating point in the evolution of this particular expression.

The *as if* and *as though* constructions give trouble at the outset. *Like* is used very generally in their stead. "He walks *like* he was lame," "My tooth feels *like* it was loose," "It feels *like* it was summer," are typical illustrations of these constructions.

7. Summary

1. The child is the heir of all the ages of linguistic evolution, but his heritage is of the nature of social, not of physical, heredity.

2. The content of any word, as "virtue," differs to a greater or less extent in different minds, though there is a general and basal meaning which it has for all persons who have any knowledge of it.

3. The child assigns special, concrete meaning to many abstract symbols he sees or hears, if he reacts upon them at all. Or else their significance is felt in only a very general way.

4. Concrete terms commonly have too broad extent; and again they may in some cases be too narrowly limited in extent.

5. With the novice, it is probable that his mental processes and his linguistic ability do not develop precisely parallel. But with *développement*, the character of the individual's expression becomes a more faithful index of his thought.

6. The reaction of the alter is one of the most potent factors in bringing the child's interpretation and employment

of symbols into accord with the usage in his community. There is a process of social selection in linguistic evolution somewhat like natural selection in biological evolution.

7. The child's vocabulary resembles a growing organism. At any moment there may be found in it words, phrases, and expressions well-nigh matured, while other words, phrases, and expressions may be in all stages of immaturity.

8. The general principle of apperception — the assimilation of new by the nearest related familiar experience — applies fully to linguistic evolution.

9. Terms having particularized meaning are interpreted in part through the general attitudes aroused by the general element of the particularized term.

10. Meanings of abstract terms are felt before they become definitive. The child who says, "I know, but I cannot tell," is often stating a truth.

11. All the child's expression relating to new experience is indefinite, non-precise, showing that he is feeling a general, undifferentiated situation, and not imaging some particular element thereof.

12. The novice has special difficulty with the meanings of words descriptive of time relations, and with the use of the *neither*, *nor*, and similar constructions.

PART II

REFLECTIVE PROCESSES IN LINGUISTIC DEVELOPMENT

CHAPTER VII

ACQUISITION OF WORD-IDEAS IN READING

1. The Attitude of the Novice toward Reading

At the outset we may take note of the peculiar character of the situation which the pupil faces when he begins his attack upon the art of arts. Up until this point the objects he has seen in the world about him have probably all had concrete meaning for him, because they have affected him in some direct, vital way, or he has made use of them in carrying forward his active enterprises. For this reason he has had every incentive to give his attention to these real objects, in order that he might get to understand and always to recognize them whenever he encountered them, so that he could adjust himself properly to them. When compared with verbal symbols, these concrete things have, taken as a whole, possessed in a striking way peculiarities of visual, auditory,

Visual verbal forms have little if any significance or individuality for the novice.

or dermal experience which have made their individualities, so to say, easily recognizable. It is appreciated, of course, that the child will not in the beginning distinguish a cat from a puppy, for instance, or his father from his mother; but yet these different objects influence him in quite distinctive ways, and very early he is impelled to attend to each critically, so that he may foretell what he will receive from it or how he may use it. This leads rapidly to ever more acute discrimination of these real things; and while in the large and on first contact, as already intimated, a kitten and a puppy appear identical, still each possesses certain characteristics which the eye, the ear, and the skin of the learner, made keen by need, come quite readily to detect.

But see what a different situation the novice meets when he begins his reading. He is confronted by verbal forms that are practically identical, so far as his eye is concerned. A word when first met is just a group of lines, or marks, probably, — hazy, undefined, characterless. These verbal forms have no individuality, either as forms or as symbols of meaning. The child has had no vital experiences which should incline him to study these forms critically; and even if he did attempt to examine them, they are relatively devoid of marks that his attention, which has been engrossed with moving, dynamic objects presenting varied color combinations, could seize upon. The elements of words, the letters, are still

less distinguishable, if possible, because they have still less individuality. The six-year-old has been practised only in distinguishing objects in the world of concrete, sense realities; and in consequence he is wholly unpractised in noting the essential characteristics of verbal forms as conventional symbols of these realities. Observe a child of five, say, who has had no training in reading, and see how difficult, if not impossible, it is for him to attend to mere verbal situations of a visual nature.

The child comes to this new class of objects without any sense of what he ought to look for in learning them. For him, these verbal forms lack vitality and significance altogether, and there is little if any value to be derived from mastering them. In reality, words are devoid of individuality even to the adult until they acquire meaning as symbols, except in the case of the philologist who is interested in their history or phonetic character; but even the latter acquires his interest late in his development. So why should the child be concerned with words if they have not affected him in any obvious way, or if they cannot be used to secure goods of importance? Of course, if he has gained the notion, more or less clearly, that these symbols are the instruments by the aid of which he can make out the stories in his books which now he must depend upon others to make out for him, this will be an incentive for him to give his attention to them; but this appreciation must be exceedingly slight

Interest in
reading is
not native
to the
child.

in the case of a six-year-old who does not even "know his letters." Writers are in the habit of likening the child to an adult beginning a foreign language; but really there is a great difference between them, for the adult, having acquired one language, has the basis in experience for estimating the value of acquiring another language, while the child is lacking in this respect. It may be suggestive to mention in this connection that if a child of six or seven be given freedom, he will not normally take to reading, but will choose hand activities, constructive exercises, and games and plays.¹ Dewey,² Patrick,³ Oppenheim,⁴ and others have recently emphasized this point, and it is becoming a matter of current belief among observing teachers. However, there appear to be certain exceptions to this principle. We are told of men like Franklin and Mill who had great love for reading as early as three, even; and one sometimes hears of children who cannot be kept from their books at the age of five or six. This is not to say, though, that even these children would spontaneously choose reading above all other activities,

¹ In Part I of my "Dynamic Factors in Education" I have worked out this conception in some detail.

² See his "The Primary School Fetish," *Forum*, Vol. 25, p. 285. He has expressed his opinion also in a number of articles in the early volumes of the "Elementary School Teacher."

³ "Should Children under Ten Years learn to Read and Write?" *Pop. Sci. Mo.*, Vol. 54, pp. 382-392.

⁴ "The Development of the Child," especially Chap. V.

for they may have little else to occupy their attention, and they turn to this activity as a *dernier resort*. We have no evidence to show that if the child were given an environment rich in opportunities for motor activities he would of his own accord leave his playfellows and all his concrete enterprises and devote himself to his primer. We really have much evidence indicating that the contrary is true.

It is not implied in what has been said that the child never becomes interested in reading so that he will sacrifice all his other interests for it. One who lives with children from eight on often sees them hurry their morning toilet and their breakfast, and tarry in the library at bedtime, so that they may have as many minutes as possible with their books. Reading is the consuming passion of H. at nine, so that special effort must be made to keep her interested in other activities; and this is true in principle of a number of H.'s companions, who have *learned reading as an art*, or rather *as a means*, and who have free access to books within their sphere of comprehension and interest. But note that H. is interested, not in words as mere forms, but only in their meaning; in the situations which they now portray for her. If she takes up a book in which the mere words require much attention, as is the case sometimes in her school reading, she soon tires of it. She is no more interested now in the technique of visual language than she was at six

when she was first introduced to the art, and when verbal forms meant nothing to her.¹

2. Initial Processes in mastering Reading

Language-
unities in
reading.

The problem of how to arouse the young child's interest in verbal technique, or at least how to secure his attention thereto, will receive our consideration presently; a more general matter must occupy us for a time here. The task we must accomplish in teaching the child reading is, of course, a very complicated one. We must for one thing lead him to such a knowledge of the several language-unities that they can be recognized and used separately when occasion requires; and at the same time he must attain such facility in the employment of the larger units that the elements of which they are constituted will, in these connections, lose their individuality, and function only marginally as factors and not as independent units. The farther development proceeds the larger the units that must be dealt with as wholes, the lower units fusing together and forfeiting their separate existences. When

¹ Sometimes children before they have begun reading show some interest in the words they see on billboards, stores, etc., and they inquire what they signify. But it has been my experience that these words always possess unusual characteristics in size, form, color, material of which they are made, or the like, and these, and not the verbal characteristics pure and simple, claim attention. Eliminate these peculiarities, so that you have nothing but symbolic values left, and the novice will probably pass the words without noting them.

the child begins reading, he certainly does not distinguish focally the elementary sounds in the words he hears, and it is probable that the average child of five does not focalize the separate words of the sentences spoken in his presence. A sentence is to him simply a unified complex of sounds that mean something as a whole. Doubtless by the age of five the child knows individual auditory words, for if you speak a sentence slowly and ask him to tell the words, say the names of the objects mentioned, or what you have been talking about, he can do it. And still in his reaction the sentence is a unity to him; and it has become so through the gradual integration of its elements as he has reacted upon or used it in his daily adjustments. While he began with word-units, every step forward has tended toward the integration of these into higher units; and the original independence is largely lost, as the lower units actually function in daily linguistic experience. However, if one substitutes a strange synonym for a familiar term in a sentence which is ordinarily handled as a unity, he may prevent such reaction, and compel attention to the new element until it becomes fitted into the sentential pattern. I say to my children one morning, just to see what will happen, "It's going to be a *resplendent* day." They all halt at the novel word, and make haste to find out what it means. Afterward I may hear them practising on it so as to work it into the sentence, and get their tongues and ears fashioned to it. We

are touching here upon a fundamental principle in linguistic evolution, — the establishment of sentence patterns, and the introduction of new designs into these patterns, — the treatment of which will be given in greater detail in later discussion.

Visual perception of verbal forms peculiarly difficult.

There is a peculiar difficulty which the child encounters in his perception of visual verbal forms, and to which reference has already been made. Before he attacks reading, his visual experiences have been mainly concerned with objects in which color has been a prominent characteristic. It is probable that static forms lacking pronounced color values attract relatively little attention from the young. In the visual exploitation of most objects the child's eye sweeps from one prominent color area to another; and in the case of objects in which these areas are not quite clearly marked, the learner will have trouble in establishing their individuality. Observe a child of two years, say, in reacting upon the objects about him. The "dull," "sombre," unvarying objects in respect to color values are ignored, while those of opposite characteristics monopolize the attention.

The exploitation of literal forms.

One may observe teachers who still teach reading by the alphabetic method resorting to various devices to get their children to exploit the letters. For one thing, they trace the letters "in the air" or on the board, while the learner attends as best he can to the process. Theoretically his eye will follow the tracing, and in consequence

there will be established certain motor patterns or sequences which will constitute the principal data for the recognition of the letter. Doubtless what actually occurs in this tracing, if repeated, is that the eye of the novice gradually becomes habituated in the exploitation of literal forms in an appropriate manner. Tell a child of three to "look at this letter," and what happens? He gains just a general, obscure impression of the thing as a whole. He is not focally aware of its being composed of elements, each bearing a definite form and spatial relation to the others; this awareness can come to him only when his attention is drawn upon the several parts by his attempting to construct them in the sequence in which they exist in the model. He can attend in a way to the elements while they are being made, but he is unable to exploit them effectively when they are presented in the completed whole, simply because he has had no experience in focalizing elements in this sort of a unity. In the forms with which he has had to deal up to this point there has been no occasion for this special analytic process; his interests have in no way been promoted by it.

The novice is required by some teachers to trace for himself the letter he is trying to learn. Theoretically the manual process yields valuable data for establishing the individuality of letters. As Professor Baldwin has pointed out in discussing *Tracery Imitation*,¹ there are

¹ See his "Mental Development, Methods and Processes," pp. 86-103.

three series of data involved in the production of a letter in this way: the ocular data, resulting from the eyes following the line; the retinal data, resulting from the retinal impression of the line traced; and the kinæsthetic data, derived from the motor processes required to execute the line. These data coalesce in a manner which need not be worked out here; but each plays a part in establishing the individuality of verbal forms. It is doubtful if the visual data alone would be sufficient to differentiate these forms. Watch a child of six who has been set a task of learning letters by merely looking at them, and you will see him often trying to help himself by running over them with his finger. If he be given a pencil and paper, he will often spontaneously reproduce them in his crude way, and he will even model them in his sand pile.¹ The verbal-motor-graphic tendency becomes marked in children who learn to read by reproducing words or letters. There seems to be a sort of urgency of visual verbal forms to become realized in motor process; and doubtless the execution reacts upon the image, defining it and rendering it secure and recognizable. We saw the same principle in operation in the disposition of auditory verbal images

¹ Stricker, among others, attaches supreme importance to the motor elements in language; these constitute the content or meaning-ideas of our verbal associations. See his "Sprachvorstellung," pp. 26-28 and 77-78. For a discussion of the general principle of dynamogenesis, or the motor expression of sensory and central processes, see the author's "Education as Adjustment," especially Chaps. V and X.

to become realized in speech. Of course, it is with this as with most other modes of reaction in mental development, — as the reaction becomes facile, the tendency to perform it, except when immediate adjustment demands it, grows constantly less.

In this connection it may be of interest to quote a passage from Huey¹ regarding the prominence of motorization in linguistic activity in his own case: "I have been interested," he says, "in noting the part which motorization seems to have in this higher knitting together of word-units into phrase- or sentence-units. The word, with myself at least, seems to be motorized as soon as singly presented, instantly when *seen*; and this motorization seems to help hold it in consciousness while it is combining with the other words into the higher unit, the phrase, which is then itself motorized (or in reading aloud is spoken) by one unitary effort.

The motor factor in gaining word-ideas.

"It is well known that in reading aloud the vocal utterance follows several words behind the eye's fixation point. It seems to me, also, that in silent reading there is a similar phrase motorization (or auditization, or both, as is most usual) following behind the eye, and *after* the perception and audito-motorizing of the single words. (This, of course, has reference to readers who motorize; and it seems difficult to find readers who do not, in a greater or

¹ "On the Psychology and Physiology of Reading," *Amer. Jour. of Psych.*, Vol. XII, 1900-1901, p. 308.

less degree.) The single-word motorization does not make so much noise in consciousness as the later and reinforced utterance as part of a phrase, but is truly there, to my introspection, at least."

Historic
schemes for
teaching the
alphabet.

The extreme difficulty of learning a letter in isolation has been appreciated, by some teachers, at any rate, from the earliest times, and various systems have been originated in the belief that they would economize time and effort. Hall¹ has touched upon the most interesting of these systems, and I can do no better than quote his summary. He says that "many unique primer methods have been devised in Europe to modify or reform the spelling method, beginning as early as 1534 with Ickelsamer's device of placing the picture of an animal, its printed name, and the letter whose sound was most like the animal's voice or cry, in parallel columns. Against the picture of a dog, *e.g.*, was placed the 'growling' *r*; against a bird, the twittering *z*; with a lamb, *a*, etc. The children must analyze the words phonetically, and before they saw them, draw the sounds upon the board. The later, but more widely current, method of associating *a* with apple, *b* with boy, etc., was supplemented by utilizing the lingering final sound, and teaching *b* with tub, *t* with rate, etc. Another interjectional-imitative method, suggested by Neuman in 1832, and lately modified and psychologically defended by Oehlwein, places beside the letter *m*

¹ See his "How to teach Reading" (Boston, 1901), p. 2 *et seq.*

a cow just beginning to low; with *r*, a rapidly moving post-wagon and the winding of a clock are pictured; with *a*, a crying baby and a crow; with *o*, a falling snow man, and the children exclaiming, Oh! with *f*, a smith at his bellows, the sound of which the children may imitate; with *sch*, children driving away hens, etc. By another method, red letters were printed on blackboard and slate, to be exactly covered by the children's chalk and pencil. In Basedow's great work (1774) describing the methods of his institution, reading, like everything else, was sugar coated and made play. In the pronunciation games, the children spoke the names of all the pleasant things they could think of, as apples, sugar, raisins, candy, nuts, etc. In the game of lettered cards the parent or teacher played, *e.g.* *a*; and if a letter that could be pronounced with it as a syllable, *e.g.* *b*, was played by the child, who said *ab*, it could, as a reward, bite an apple, see a picture, smell a flower, etc. In his school-bakery, sweet cakes, and even bread, were baked in the form of letters, and the most doltish child soon learned to call for a large gingerbread *w*, instead of the small *i*, and usually graduated from an alphabet diet of four weeks as an accomplished a-b-c-darian. There were alphabet blocks, alphabet songs, dolls, pictures, rhymes, games, etc. By some of the philanthropinists, boys were taught *w* by twisting their bodies into something like its shape and crying *woe*; they personated *f* by dressing in helmet, big necktie, and

stilts; or s, by putting on an artificial hump and big belly, etc. Pestalozzi taught his classes to spell long lists of words by heart before they saw the letters; and then, showing the letters, had them combined in every way, somewhat after the fashion of 'the house that Jack built'; while some of his fellows degenerated to exercises in pronouncing senseless combinations of forty or fifty letters each. A leading, though by no means the only, motive of these, and many other methods which might be cited, was to reduce the function of the letter-name, or defer it to a later stage in learning to read. Although the letter-name was once defended, because mechanical, the pedagogic rage against its chief use in spelling has run very high in Germany. Kehr says it has caused children ages of misery. Heinicke says it required thousands of superfluous associations, and that no child ever did really learn to read by it; but, when seeming to have done so, has in fact unconsciously translated names into phonic signs; that spelling is a child-torture greater than the Inquisition, etc. Some German writers asserted that most children did not need to learn to read, not for the reasons Rousseau said Émile need not read till fifteen, although he would if, or because, not forced to it at ten, but because between the greatly magnified hardship of old and the fantastic nature of new methods, ignorance seemed preferable. Jutting lately stated that no one, except an anonymous newspaper writer, had seriously

defended spelling as a method of teaching reading for fifty years in Germany. It was forbidden by law in Prussia in 1872, and several states have since followed."

3. Language-unities in teaching Reading

Modern criticism of the alphabetic method has, it seems, thoroughly established certain fundamental principles, which may be mentioned here without argument. To begin with, the learning of the letter at the outset as a thing apart is wasteful and ineffective for at least two reasons. In the first place, it is to the novice entirely non-significant, and is so simple structurally, so lacking in distinctive features, so devoid of individuality, that it is unusually difficult for him to master it. There is little in it for his mental hooks to fasten on to, a fact emphasized by Cattell's¹ experiments, in which he showed that short words are read more easily than isolated letters. Then, in the second place, the letter, in order to be used most advantageously later on, must be learned at the outset as functional in larger unities, and not as standing by itself, and having independent value. The novice has made no progress toward the mastery of verbal forms as symbols of experiences when he has learned simply that a certain elementary form is called *a*. Indeed, he has probably lost ground, for the reason that when he comes

Wasteful-
ness of the
alphabetic
method.

¹ See "Ueber die Zeit der Erkennung und Benennung," etc., *Philosophische Studien*, Vol. I.

to use it as functional in words and sentences he is handicapped by tending to regard it as he originally formed acquaintance with it. This is not to say that he should never learn the letters by name; but it is important that his first dealing with them should concern their functional values, so that these may always be most prominent in linguistic reaction. A novice could never infer the oral form of any word, as *cat*, from the names of its elements, and there is surely not the slightest organic relation between these elements and the significance of the word. It is impossible to establish vital relations with content as long as we deal with the isolated letter, which need not be the case when we make a beginning with the word or sentence.

Relation
of word and
sentence
in the be-
ginning.

On the other side, there is a limit to the complexity of the forms which the children can economically attack at the outset. It is quite the fashion in some quarters to-day to start the child in his reading with the sentence. But from my own observations it seems likely that the sentence is not learned as a unit in the beginning. Some prominent word is seized upon, and the whole sentence is read out from it. Take this: "Hiawatha is an Indian boy";¹ the child will say off the whole sentence, because he has

¹ I experimented with all my children on sentences of this character made from Florence Holbrook's "Hiawatha Primer." In every case I made greatest progress when I did not cling too closely to the sentences at the outset, as I show farther on.

heard it spoken, and Hiawatha reinstates the whole, but *was*, *an*, and *boy*, possibly also *Indian*, are missed completely so far as visual appreciation is concerned. They might just as well not be in there at all. The word *Hiawatha*, and possibly *Indian*, are all that become focal in the beginning, and so are the only words learned. I am assuming now that the sentence is treated as a unity, without giving prominence to each word. However, if the teacher presents the sentence as a series of independent elements, as, “Hiawatha — is — an — Indian — boy,” pointing to each word as she pronounces it, and requiring the child to do the same, then the separate words receive individual attention, and the conception of the sentence, as composed of individual words, becomes established. But more of this presently.

The proposition, heard so frequently to-day, that the sentence is the unit of thought, and so the child should begin with it in reading, is of doubtful validity, as it is ordinarily interpreted. It is doubtless true that the child's adjustment to any situation requires a mental construction, which logically comprises the elements of the sentential pattern; but these elements are not all explicit in most of his adjustments. We should not forget that the child uses sentence-words to express his experiences long before he uses the differentiated sentence; and while he has passed this period in oral expression before he comes to reading, nevertheless, when he essays the mastery of a new

language medium, he tends to fall back upon the word as the unit which is within his grasp, and which answers his needs fully. For instance, when he is looking at a picture of a horse in his reading-book, the single word "horse" will express the measure of his thought as completely as will the sentence, "This is a horse" or "See the horse" or "Here is a horse." It is very probable that the child's interest when he begins his reading is not to "make sentences," but to discover what object a given word denotes. Perhaps it should be turned about, — he desires to find out what word will designate the object now before him. To achieve association between object and its simplest verbal symbol is the ambition of the novice.

Lower
unities
must be
gained as
functional
in higher
ones.

There can be no doubt that the learner ought very early to be got into the habit of handling the sentence as a unity, the word functioning merely as a factor therein. If the child becomes accustomed to dealing with the word as a thing apart, his progress in reading will surely be arrested. Just as rapidly as he can do so he should be urged on to larger and larger unities, — from the word to the simple sentence, from the simple sentence to the more and more complex sentence, and from the sentence to the paragraph, perhaps. But care must always be taken not to crowd the child beyond his ability to make out readily the principal words in a sentence. If he must struggle with each word, he acquires no idea of sentential unity, and this serves to impede his growth in using the sentence as a whole. On

the other hand, he must never be permitted to settle down on a lower unity, to make it automatic before he employs it in a larger unity, or his mastery of these larger things will be seriously retarded. Automaticity is a matter for the highest unities and not for the lower ones, except as they function as factors in the former. As Chubb¹ says, "experience amply proves, a too close attention to the word, a too close dealing with it out of its sentence relations and without insistence upon the synthetic process of grasping the meaning of the whole, develops into mere parrotry."

The principle is that the child cannot economically grasp the more complex unities at the outset; and at the same time he will be impeded in his progress if we keep him dealing with those of a simpler order until he acquires the habit of attending to single words. Is there any middle course? Like all other matters of development, this one is exceedingly involved. The method must change as the learner's attitude changes; and it does change gradually as he accumulates experiences in handling words. When the novice gains mastery of two or three words, say, for illustration, *Hiawatha* and *boy* or *Indian boy*, so that he can recognize them with some degree of certainty and celerity, he should cease to attend to them separately. He must henceforth deal with them mainly as they appear in the sentence, "*Hiawatha was an Indian boy.*" He must as rapidly as possible be made *sentence-minded*, being led

¹ "The Teaching of English," p. 71.

gradually to react upon words as factors only in the larger unity, the sentence. He must be aided by the teacher to handle the sentence as a unit; she may read the sentence herself so that it appears to be a unit, and then require the child to read it after her, even if mechanically at the outset. If the sentence gets established as a vocal unity, this will react upon the manner of perceiving it, coercing the eye to take it in as a whole.

Then the teacher can use her pointer so as to make the sentence appear to the eye as a whole; that is, she will not indicate each word for the learner to note by a special attentive attitude, but she will draw his attention upon the whole sentence, which must not be too involved at the start; and further she will constantly suggest to the pupil that it is the whole that is of importance, and not the elements as distinct entities. It is a matter of establishing habits of attention, — synthetic rather than analytic. The method indicated will, while permitting the child to start with single words, prevent his forming the habit of dealing with them individually. I have experimented with children who had in school got into the way of reacting to individual words (though they began reading with the sentence) and in time this tendency was overcome by the methods indicated. At first I would get them to read short phrases as units;¹

¹ To illustrate: V. reads this sentence, "You — have — many — arrows — in — your — quiver, — but — you — will — not — kill — me — with — them," giving independent value to each word. In curing

and then, without dwelling too long on these, they would move forward to the larger unit, and by repeating this until their grasp of it as a unit became secure, I could change the direction of attention from separate words to the sentence. Of course, individual words must of necessity receive a relatively large amount of attention in the reading of the novice; but with right methods this may be made speedily less, the elements becoming readily merged in the whole. It is a simple enough fact that in the course of linguistic development elementary units of any order may be made to gradually coalesce, forming more complex patterns, when the act of recognitive attention may concern primarily the whole pattern without taking explicit account of its component figures. H., at ten, will read words that are considerably mutilated, if they only occur in more or less familiar contexts. She is wholly unaware of the mutilation until I ask her to "study" the words, when she will

him of this trouble, I get him first to read "You have many arrows" as a unit, then "in your quiver" as a unit; then he reads as a unit, being aided by my voice and my pencil, "You have many arrows in your quiver." Then we work with the second clause in the same manner, finally combining the several units into the whole, so that the learner feels its unitary character. It has been my experience that the novice is so much pleased when he is able to read in this way, probably because he gets more out of his sentence and he sees that what he does now is more nearly like what others do, that he is prejudiced in the direction of trying to read this way always. Once started in reading the sentence as a whole, he rapidly gains in facility.

Compare with this Dearborn, "The Psychology of Reading," especially pp. 96 *et seq.* Also Huey, *op. cit.*

detect the errors in most cases. When I ask her why she thought, to illustrate, *Wisocnsin* was "Wisconsin," she replies that "it looked like it." Bagley,¹ Bawden,² and others have secured experimental evidence corroborative of this principle. It seems to be with reading as with adjustment to other situations, — familiarity leads to reaction without focal attention to all the elements of a situation.³ Further, the child gradually grows to *anticipate* words. V., for instance, will in his reading go astray at times, because certain words in the sentence before him reinstate other familiar sentences, and he really "sees" what has thus been revived and not what is now presented to him. All children, it is probable, thus "guess" constantly, which means that they tend to complete present situations in the light of past experience with situations similar in some respects.

The mastery of the less important words in sentence-unities.

It has been said that when the learner is able to recognize without much hesitancy the principal words in the sentence, he should be encouraged to deal with the latter as a unit. But what of the less important words, such as *is* and *an* in "Hiawatha is an Indian boy"? These need not give us much concern at the outset. The pupil may not be

¹ "The Apperception of the Spoken Sentence," *Amer. Jour. of Psych.*, Vol. XII, and Reprint.

² "A Study of Lapses," *Psych. Rev.*, Monograph Supplement No. 14.

³ Dearborn, "The Psychology of Reading," has treated this problem in great detail in studying the movements of the eye and reading pauses in reading. See especially Chaps. IV-XIII.

vividly conscious of their individual existence, but yet he may pronounce them because he has heard the sentence as a whole, and now the two words he knows, *Hiawatha* and *boy*, will reinstate this whole. Gradually, with repetition of the sentences in which *is*, say, occurs, it will begin to play its part, though it is not really necessary that it should be explicitly recognized very early. It gradually acquires more or less of marginal value, and this will meet the learner's needs temporarily.¹ Of course, with enlarging experiences the word, being utilized in so many different situations, acquires an individuality of its own, as do all the less important words, like *the*, *a*, *an*; *this*, *that*, *which*; and *as*, *to*, *in*, *of*, *for*, etc. The principle is that all these

¹ In connection with this statement, the following may be read with interest: "One of the most striking things brought out was the lack of association from connective and relational words, definitive adjectives, etc., and the displeasure with which they came consequently to be regarded. They seldom aroused any ideas directly, and few associations of any kind except verbal ones, usually phrases of which they customarily form a part. Occasionally they gave evidence of setting the subject's thoughts in characteristic directions of expectancy; and doubtless the prepositions, especially, always had some very general influence in determining how the whole thought-organism should face the coming related object. These vague expectancies were occasionally noticed by the subjects, particularly in the case of such words as 'between,' 'into,' etc. The whole feeling of the subjects toward these words and their inability to call up associations irresistibly suggested that the mind had no place for them as separate wholes, and that there was no normal way of thinking them except as more or less fused components of larger units; viz. as parts of phrases, and perhaps sentences, as they continually occur in reading." E. B. Huey, *op. cit.*, p. 306.

elements of minor significance in the sentence gradually come to distinct value through frequent repetition in many different contexts;¹ but it is not essential or desirable that the learner should apprehend this value in an explicit way before he reacts to many sentences containing these words. Common-sense educational theorizing makes a fundamental mistake in ignoring marginal processes in acquiring adjustment to any situation, especially a linguistic one such as we have been examining.

4. Learning the Functions of Literal Symbols

The purpose of
"phonic
analysis."

In what has been said thus far it has been implied that the novice should be introduced to words mainly as auditory, vocal, and visual wholes. The word should be to him a picture which he should grasp as a unit;² he should not regard it as an organism, with its various members performing special offices. Now, conceivably, he might go on in this way and learn all the words in the language as individual pictures without ever discovering the "powers" of the letters, though he would be likely, even if he should receive no suggestion from his teacher, to observe that certain visual forms were invariably rendered by certain sounds, but I do not imagine he would go very far in this if left wholly to himself.³ But if he discovers in some way

¹ Compare Huey, *op. cit.*, p. 306.

² Compare Titchener, "An Outline of Psychology," p. 146.

³ Compare the following: "A pupil taught to read by the word-method first associates the optical form of the word as a whole with the sound of

the function of the different letters in various relationships, he can readily decipher new combinations, and so he will not be compelled to learn them as though they were absolutely new. As intimated above, he would probably notice spontaneously that certain words that looked alike had the same vocal and auditory quality, but it will prove of service to him to have what he might gain incidentally in this way greatly extended and perfected by appropriate instruction. In this analytic work, the most effective method of procedure is undoubtedly to begin with the largest members of the verbal organism, — the syllables.¹

the word without linking parts of this sound with particular parts of the optical form, *i.e.* with letters; and so his reading may go on for a while. But gradually, even if he has never been taught that the optical form is composed of letter-units, he will note the likeness of the crooked beginning of 'star' with the crooked beginning of 'slipper,' *e.g.*, and will form an association of this crookedness with the hissing sound noticed as occurring in both words. The association of the optical form of the letter with its sound thus arises and soon becomes inveterate. Doubtless the appearance of letters at the beginning and end of words facilitates the linking of particular sounds with particular letter-forms; but it would come in any case; and I think it tolerably certain that, whatever the learning-method, the reader must and does come to feel the force, visual and auditory, of individual letters before he reads with much facility." E. B. Huey, *op. cit.*, p. 299.

¹ Collins (*op. cit.*, 132) gives some suggestive observations respecting the way in which aphasic patients relearn to read. They first get a view of words as wholes, then they take account of the syllables constituting a word, and finally they come to the letters last of all. Compare with this an interesting article by Ounf (*Jour. of Nervous and Mental Diseases*, March, 1897, pp. 147-148 especially) in which he shows that English-speaking children at any rate do not learn to read "spellingwise."

The syllables may be slightly separated from one another in visual and vocal presentation so as to suggest their individuality, and yet they should not be separated so markedly as to break up the larger unity. The same may be said without modification of the teaching of the values of the letters, — phonic analysis. In all this work the lower unit must not be lost out of the higher one; that is to say, syllables and phonic elements must always be reacted to as functional in words, which in turn remain functional in sentences.

The danger
of formal
phonic
drill.

Here is our problem, then, and a complex one it is, — to give the novice a sense of the value of elementary factors; but at the same time we must get him into the way of always regarding them as functioning in complex wholes. In accomplishing this the learner's analysis must extend only to the point of discovering elementary values without ever dwelling on them apart from their usual connections, and hastening as rapidly as possible to give them the value usually given them in every-day speech. Let it be added that it is a violation of this principle to have daily drills upon the sounds of the letters in isolation. They really have no phonic values in isolation. One may hear teachers tell children that *c*, for instance, has the value of *kuh*, which is probably never the case; and similar comment might be made upon the powers ascribed, in formal phonic drill, to other letters.

It must be kept in mind that the sole object of this

The
method of
phonic
analysis.

analytic work is to put the learner in possession of means whereby he can identify new words on his own initiative. Any method, then, which will lead him to feel the "powers" of the letters readily, and make him effective in using this knowledge in new situations, will be of advantage. For instance, words that have a certain element in common, as *mat*, *bat*, *cat*, *rat*, etc., may be grouped together, and the learner will soon come to feel the value of the common element, *at*. The possibilities of work of this character are well-nigh unlimited. When the learner comes to the point of using his phonic knowledge in making out new words, the teacher will see to it that he will not go beyond his actual need in his analysis.¹ If he can identify *man*, say, with-

¹ Rice ("The Public School System of the United States," pp. 86-87) gives examples of actual lessons he saw in his inspection of schools in different American cities, lessons in which the wasteful error is committed of carrying analysis too far, and making it too explicit and dominant. Here is a sample: "The sentence, 'Is it a quail, John?' had previously been written upon another blackboard, and the teacher asked the children to read it together. 'Read it backward first,' she said. The children then read the words as the teacher pointed to them with her baton, and after they had read the sentence backward and forward, they spelled all the words contained in it. The teacher endeavored to keep them in time by sweeping her stick across each word while the children were spelling it, as she had done in the other case. 'You don't spell "John" very well yet,' the teacher now remarked. 'Let us try it over again, but don't sing it.' She then spelled the word for the class, immediately, however, falling into the sing-song which she had told the children to avoid. After she had sung it alone two or three times, the voices of the children began to chime in, but she continued to spell with them. While teaching the children to spell the word 'John,' she adopted a dif-

out hesitation, it will be a mistake to require him to go through a process of formal phonic drill on it; though it may be serviceable to use this word to assist in making out a new one somewhat like it. Analysis should be regarded as a necessary evil, and we must get on with as little of it as possible. Let it be employed only when by means of it the child can extricate himself from a present difficulty.

This method is likely to lead to one result which may occasion the over-anxious teacher some worry. If we encourage the learner to react as readily as possible to words as wholes; if we discourage the analytic tendency, then he will probably go astray occasionally in his recognition of words that look somewhat alike. If we train him to be non-critical of the details of verbal forms, he will fall into the habit of reacting to the more prominent characteristics only of the words he sees. To illustrate: if he has learned the word *through* and he sees the word *thorough* for the first time, the chances are that he will call it *through*, unless the teacher has warned him against it by directing his attention at the first moment to the elements which distinguish the new form from the old one.¹ The principle is

ferent plan of leading them. She now beat time, and this she did most comically, by bringing her hands (with backs upward) as near to her shoulders as possible, when she pronounced the word 'capital,' and thrusting them forcibly forward when she uttered the 'J'."

¹ A somewhat similar difficulty is encountered in oral language in the use of homophones, as *break* and *brake*, *heir* and *air*, for example. Of

universal in its application. As Chambers¹ says, even adults have "difficulty in the use of such a word as 'cessation,' after being familiar with 'secession.' Physiology and psychology, apperception and appreciation, are pairs which have proved a source of difficulty for older pupils, while little tots have been known to be perplexed by such slight resemblances as *dog* and *god*, *like* and *kill*, *lead* and *deal*, *did* and *died*. The same tendency to see the old in the new is illustrated by the case of the little girl who read *father* 'fat her' and *Stephen* 'Step hen.' "

1. To the novice, visual verbal forms seem of slight importance. The objects that have attracted his attention before he starts his reading have all had concrete meaning for him, and have appealed to the eye on account of prominent characteristics of form and color. Verbal symbols lack the qualities that make objects in the world of interest to the child. Summary.

2. Verbal symbols are, to the novice, lacking in individuality, unlike the real objects with which he has been dealing. He comes to reading without experience in noting the essential characteristics in things of the sort he now encounters.

course, the only way the hearer can orient himself with reference to these terms is by reacting upon them in the light of their contextual connections. There is still another difficulty due to the same general cause, and which must be overcome in the same way, encountered in learning words that have elements much alike in visual form, but quite different in auditory and vocal forms, as for instance, "break," "freak"; "sew," "few"; "horse," "worse"; "shoe," "foe"; "hose," "dose," "lose," "comb," "tomb"; "home," "some"; "paid," "said"; "blood," "flood," "good"; "mould," "could"; "done," "gone," "lone," and so on *ad libitum*.

¹"How Words get Meaning," *Ped. Sem.*, March, 1904, Vol. XI, p. 48.

3. The child is not natively interested in reading, and he will not become interested until he gains some facility in reacting to words as symbols of experience.

4. In teaching the child to read, we must lead him to such a knowledge of the several language units that they can be recognized and used separately as occasion requires. At the same time, he must acquire such facility in the employment of the larger units that the elements of which they are constituted will function only marginally as factors and not as independent units.

5. The novice experiences unusual difficulty in exploiting visual verbal forms. It is probable that static forms lacking pronounced color values attract relatively little attention from the young. Verbal forms are lacking in the structural characteristics that appeal to the eye of the child.

6. In exploiting literal forms, the novice must see them being constructed; or better still, he must be guided to construct them himself. The motor factor plays an important part in gaining mastery of verbal forms.

7. The extreme difficulty of learning a letter as a thing apart has led teachers to adopt various artificial schemes for establishing associations for the letters. The alphabetic method of teaching reading is wasteful and ineffective.

8. There is a limit to the complexity of the forms which the child can economically handle at the outset. He should begin with words denoting familiar but interesting objects before he attacks the sentence. However,

9. Words should always be felt as functional in larger unities. The child will be arrested in his progress if he learns words automatically as independent units.

10. The less important words in the sentence must not be

learned separately. They will at first be overlooked altogether, but gradually, as they occur in different situations, their function in the sentence will begin to be appreciated, and by frequent repetition they will be mastered.

11. Early in his learning, the child must be led to discover that certain visual forms are invariably rendered by certain sounds, for this will enable him to help himself in new verbal situations. He should begin by syllabication, when this is possible, of words he has heretofore dealt with as wholes; and he should proceed therefrom to the functions of the letters.

12. However, in this work the lower units must always be felt as functional in larger wholes, and not as independent units. There is great danger in phonic analysis of making phonic elements too prominent.

13. Care must be taken not to have the novice make use of phonic analysis as a matter of mere drill.

CHAPTER VIII

ACQUISITION OF GRAPHIC WORD-IDEAS

I. Automatic Facility in Graphic Expression

The character of graphic word-ideas.

IN the discussion of visual, vocal, and auditory word-ideas we saw that it was the aim to acquire them — all those that entered prominently into the needs of daily life — so that they could be employed automatically in the reactions in which they functioned. The same aim in principle must guide us in the acquisition of graphic word-ideas. It should, perhaps, be observed at the outset that it may not be strictly in accord with contemporary psychological theory to use the terms “graphic word-ideas,” implying thereby that there is a distinct cerebral graphic word-centre in which verbal forms may be imaged motorially. It is more likely that graphic word-ideas are just special motor complexes arising from reaction upon visual and possibly auditory and vocal word-ideas. But this particular point need not concern us specially here, for it is not at all vital to our present purpose.

Whether there be a cerebral graphic word-centre or not, it must at any rate be granted that it is possible to acquire

automatic facility in graphic expression. Take a child who begins writing words at seven, say; observe with what difficulty he performs his tasks. Let him now have ten minutes' experience every day in writing a certain group of words, and note how, comparing his achievements week by week, he gains in ease, readiness, and surety of execution, until after three years of such training he can, without any apparent effort, "exteriorize" many simple words relating to the experiences of daily life. He has evidently established manual and digital habits relating to the words in question, so that the visual, auditory, or vocal verbal imagery which was originally focal, and essential to set up and control the graphic processes, now functions only marginally in initiating and continuing these processes. There is not normally a large number of words that the child can write automatically by the ninth year; but there are many words that are pushing forward rapidly toward automaticity.

The method
of attaining
automa-
ticity in exe-
cution.

Theoretically, at any period in the individual's career words may be found in every stage of development from deliberate to automatic execution. At the growing point new words, relating usually to new experience, are constantly being introduced into the vocabulary; and if this experience is oft repeated in daily life, and the symbols expressive thereof are frequently employed, they start down the course toward the automatic goal. Some of the words, however, which do not enter largely into the activities of

every-day adjustments will remain near the focus of attention perpetually in a state of arrested development, so far as facility in execution is concerned. As the body of graphic word-ideas functioning automatically increases, the greater will be the probability that any new word will readily fit into one of these verbal habits and be executed with ease. Take, for example, the nine-year-old who comes for the first time upon the word *invaluable*. The elementary forms of which this is compounded, *in*, *value*, *able*, are familiar to him. Then what is required now is not to learn this new thing *de novo*, but to get the swing of these familiar elements in this special combination. It is certain the pupil will show some hesitation when he first attacks this word, but the period of experiment will be greatly abbreviated as a result of having gained facility in executing the elements.

2. Imagery Functioning in Graphic Expression

Visual imagery.

We must now turn our attention to the imagery upon which graphic verbal processes depend. The popular view is that we must always "see" what we write. Undoubtedly visual imagery is involved in the graphic processes of most adults who have learned writing by reproducing a copy; but there seems to be no reason why one should not react in any particular motor way upon auditory stimulation without the intervention of visual images. For purposes of experiment, I blindfold S. and pronounce to him the

Greek letter θ . Immediately after, I take his finger and trace the letter on the table a few times, and then ask him to do it. In the same way I pronounce ϕ , and π , and guide his reaction in a certain way; and I repeat the process every day for a week. He has not *seen* these letters, has not heard their names until now, and, of course, has never tried to reproduce them heretofore. But before the week is over he can write them quite readily when I pronounce them. It is doubtful if visual imagery plays any appreciable rôle in this reproduction, though it is possible that S. does visualize a form when, blindfolded, he is made to trace it with his finger. But if he does, the image is probably quite obscure,¹ and it does not appear to be essential to the graphic reproduction of the auditory word.

One who will observe a child at the very outset of his acquiring graphic word-ideas will be convinced that visual imagery is not the all-controlling factor. When V. was learning to write his name, *Vincent*, he would get halfway through, perhaps, and then he would ask: "Now which way does it go?" "This way?" (trying it) "or this way?"

Kinæsthetic imagery.

¹ It should be understood that S. is only four, and has had no experience in writing or reading, so that he probably has no word-ideas of a visual or graphic character. When I try the experiment with H. at nine I am confident she visualizes forms which she traces; indeed, she says she can "see" them. The natural history of this phenomenon seems plain enough. In her writing, visual images and graphic processes have always been inseparably connected, and when one occurs, the other is reinstated. But S., lacking H.'s experience, unquestionably lacks the imaging activity which is the function of that experience.

(trying it in the new way). It seemed apparent that his attention was not centred entirely upon the visual image of the word; he was rather attempting to act in a way he had acted before as a matter of motor process mainly. This process included only a part of the elements comprising the complex graphic word-idea *Vincent*; he had not yet been able to integrate all the elementary processes into a unity; hence his failure to reproduce the whole series. Doubtless visual imagery was involved in V.'s execution, but so was kinæsthetic imagery; he could feel he was right or wrong as well by the tone of present kinæsthetic as of visual experience. If, now, I put a copy before V., he can reproduce it quite readily, showing that the visual image must have become connected with definite motor processes, and so it is able to set off those processes, though a certain amount of attentive effort is required. In the case of H., the image reinstates the appropriate motor processes automatically; and this is doubtless the primary function of visual imagery in graphic expression. It serves to reinstate motor processes with which it has become associated in the learning experience. However, once the motor processes constituting a graphic word-idea are set a-going, the complex will run itself off in all cases where facile habits have been established. As development proceeds, visual imagery takes on ever more largely the function of simple suggestion.

It seems possible that one may acquire his graphic word-ideas in such a way that auditory and vocal imagery

are essential to their functioning. We hear of people who "spell by the ear," or who, when they are perplexed in writing a word, must first "spell it aloud to get the swing of it in the tongue." It is probably the case that if a child spells orally mainly during the formative years, he becomes dependent in his writing upon vocal imagery. Again, the child who has learned to spell phonetically is always trying to detect the phonic "powers" of any word, when these will arouse the visual and graphic forms associated therewith.

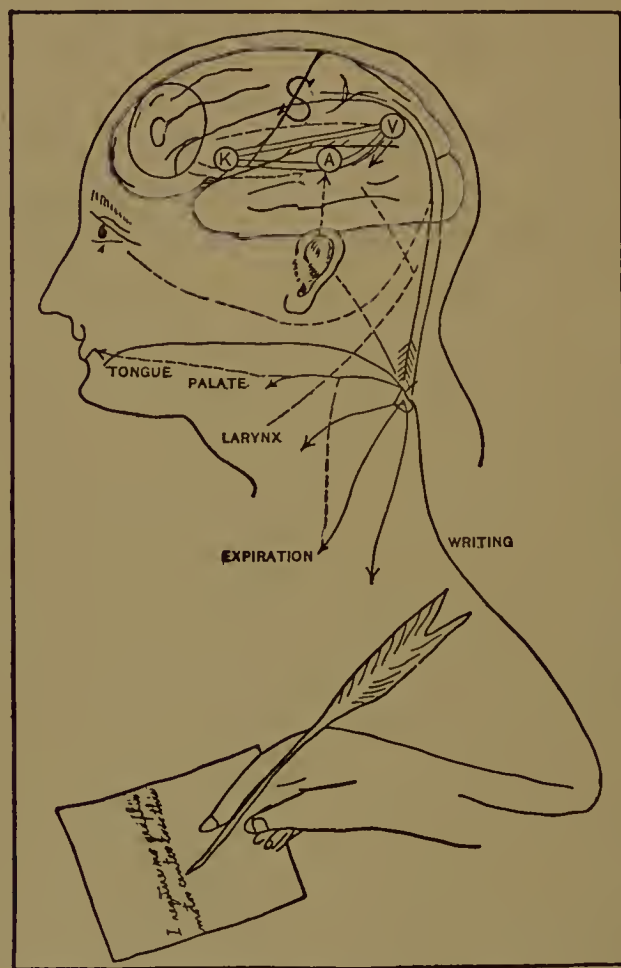
**Auditory
and vocal
imagery.**

We may now glance at the interdependence of linguistic modes as revealed in pathological cases, — in aphasias of different sorts. Collins¹ declares that graphic expression depends upon visual imagery mainly, though the visual imagery cannot be evoked except by first arousing auditory imagery and kinæsthetic memories. In the accompanying diagram (I), *V* denotes the cerebral centre for visual verbal-images; *A* the centre for auditory verbal-images; *L* the centre for kinæsthetic memories, and *S* the centre governing the motor process employed in writing. Further, *C* denotes the centre wherein impressions are co-ordinated, where "ideas are formed," where "conception takes place." Now, if a child has an idea, formed at *C*, and wishes to express it in writing, appropriate verbal-images would be evoked at *A*; these would then evoke the appropriate images at *V*; next there would be evoked char-

**The inter-
dependence
of linguistic
modes as
revealed in
aphasias.**

¹ See his "The Faculty of Speech," p. 64.

acteristic kinæsthetic images at *K*; and lastly certain definite motor impulses would be sent out through *S*, resulting

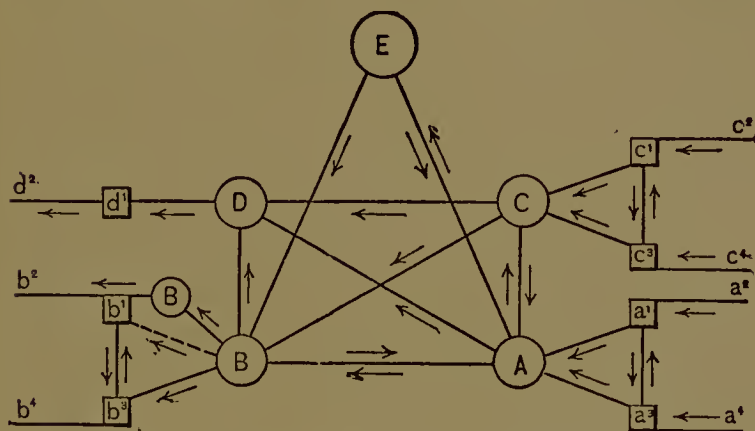


I. DIAGRAM OF SPEECH CENTRES AND CONCEPTION AREA
(Collins, p. 45)

in the production of appropriate verbal characters. Collins says that in adult life the visual verbal imagery is probably always inseparably connected with auditory

imagery, and so the auditory form of a word must always be aroused before the word can be written.

The relationships between the different language modes, as stated by Collins, are not agreed to in all details by



II. DIAGRAMMATIC REPRESENTATION OF SPEECH MECHANISM
(From "Aphasia and the Cerebral Speech Mechanism," Elder, p. 6r)

authorities such as Wylie,¹ Lichtheim,² Wernicke,³ Elder,⁴ and others, but there seems to be agreement in respect to the main points of interest to us at this time. These points may be made clearer by glancing at Elder's views. In the accompanying diagram (II), agraphia, the loss of power to write words, will occur always when there is a lesion at *D*, the psycho-motor centre for writing. If there is no other lesion in the cerebral cortex, the patient can hear words, can understand spoken words, can see words, can under-

¹ "Disorders of Speech."

² *Brain*, January, 1885.

³ *Ibid.*, April, 1888, p. 19.

⁴ "Aphasia and the Cerebral Speech Mechanism."

stand words written, can speak voluntarily, can repeat words, and can read aloud; but he cannot write voluntarily or from dictation, nor can he copy printed into written words. It is apparent that motor verbal imagery is completely destroyed.

Agraphia will occur again when there is a lesion between *E* and *B*, indicating that "ideas" cannot set a-going motor graphic processes directly. In neurological terms there is no cortical route from *E* to *D*. Thoughts must first be framed, as it were, in articulatory imagery before these can be revealed in graphic motor processes. Now, as Elder states the case, we might infer that a patient who had lost *C*, the visual cortical word-centre, could still express himself in writing, but such is not the case. Patients afflicted with pictorial visual aphasia, resulting from lesion of the cortical visual word-centre, cannot write voluntarily or from dictation, showing that visual verbal imagery is inseparably associated with verbal motor processes. In cases where *A*, the auditory cortical word-centre, is destroyed, producing pictorial auditory aphasia, the patient shows great disturbance in written as in vocal expression, but still he can write voluntarily, showing that motor verbal processes are not absolutely dependent upon auditory verbal imagery. Finally, when the psycho-motor centre for speech, *B*, is destroyed, the patient cannot write voluntarily or from dictation, showing that the route from idea to motor execution involves the speech centres, at any rate.

Out of this law of the relationship of the linguistic processes grows the practical principle that in the school the individual should become habituated in the special mode of execution of word-ideas which will be mainly required of him in the adjustments of mature life. This means that the pupil must learn to spell graphically, so that all imagery — visual, vocal, auditory — may to the greatest possible extent be expressed automatically through the hand. Graphic execution should be the goal of all verbal imagery when the individual is in the need of execution; and motor habits should be established for all words which will be employed very frequently. No matter how facile vocal word-ideas become, if they are not carried directly into graphic execution, the individual will not profit greatly in the sort of spelling that will be of service to him in maturity, though doubtless there is some gain in graphic function whenever there is advance made in any mode of verbal imagery wherein the elements of verbal forms are focalized.¹

The method of teaching spelling.

3. Psychological Relation of Reading and Spelling

This leads to a consideration of the claim made by some teachers that spelling is a function of reading; if one can read readily, he will be able to spell readily. But experience shows that a child may read very well, but be quite

The acquisition of visual is more rapid than of graphic word-ideas.

¹ I discuss farther along the theory that a pupil will learn to spell incidentally, or as a function of his reading or growth in intelligence in any direction.

devoid of graphic word-ideas.¹ It is safe to say that practically all pupils in the elementary school can read many words which they cannot spell; and as a general principle they can read ordinary words very much more readily than they can spell them. I may give here, for purposes of illustration, a typical "language exercise" of a nine-year-old child who could read with ease and readiness, in respect alike to understanding and word recognition, such books as Kingsley's "Water Babies," Ruskin's "King of the Golden River," "Swiss Family Robinson," "Robinson Crusoe," any of the volumes in the Young Folks Library,² and the simpler works of Cooper, Dickens, Scott, and the like.

I went to the Fair and I sawe (saw) the rases (races) theae (they) begane at 2 O'colk and I went in to the Lafthing (laughing) clary (gallery) when you got in there you could not stop lafthing untill you came out the inside of the tent was made up of a lot of looking glaes and when you went in there you wure magnfide so you look very funy it made your head very large and your body every smal and your legs look to large for your feet and they looked very smal and your arns looked very smal and fat and your hands looked ofer larg and thing.

Your Troue Frind

The theory that the child can spell all that he can read is founded on erroneous psychology. We have seen that in visual word-ideas the elementary units may not be

¹ Cf. Bawden, "A Study of Lapses," *Psych. Rev.*, Monograph Supplement, pp. 46-49.

² "The Hall and Locke" Series, Boston.

distinctly apprehended so that they can all be named, or if named, reproduced in just the manner in which they occur in the original. For purposes of reading it is not essential to be focally aware of all details in their sequential order; but this is absolutely essential in spelling. That is to say, spelling is for most, if not all, persons a more analytic process than reading, referring now only to the method of dealing with the word-ideas pure and simple. Further, it would be detrimental in reading to get into the habit of perceiving words for the purpose of reproducing them, for this would put too great emphasis upon mere technique, a point which will be gone into in detail in the following chapter.

Enough has been said, perhaps, to indicate that there are many objections to acquiring the habit of depending upon phonic analysis in spelling, as there are doubtless some advantages. If our language were constructed on phonic principles throughout, it would probably be an economical plan to first master the graphic symbol for each of the "powers" of the literal elements of words; and then by analysis of unfamiliar words the component elements could be discovered and readily executed. This is doubtless the theory which has been adopted by those persons who advocate the teaching of spelling phonetically. But if we train our pupils to proceed in this manner, they will tend to follow it in all situations, and this will lead them astray as often, perhaps, as it will lead them to success.

Phonic analysis in spelling.

I have had an opportunity to study this matter in detail in the training of several children, and I am persuaded that facility in phonic analysis and a disposition to rely upon it exclusively in times of uncertainty is detrimental to efficient spelling. I take the following examples from a single language exercise of an eight-year-old child who dashes off new words with readiness, always proceeding phonetically according to her understanding of the pronunciation of words: *Orenj* (orange); *plesent* (pleasant); *vakashun* (vacation); *brekfust* (breakfast); *cosin* (cousin); *diner* (dinner); *frinds* (friends); *kitchun* (kitchen). The facility of this child in phonic attack upon words, which proved helpful in her early experience when lists of words were presented that could be treated phonetically, is now at times a hindrance, for it makes it difficult for her to learn many words as individuals, each having a distinct graphic personality. It will doubtless prove of advantage to the pupil if we group words together for him so far as they have similar phonic values; but yet this must not be carried to the extent that the pupil will get into the way of thinking that all words are spelled according to their sound, which will happen if we keep him dealing for the first few years with those words only that are so spelled. He must early have much experience in visualizing words vividly, and reproducing them without attempting phonic analysis. The case of V. may be cited to illustrate the value of this method. In his eighth year he was spelling

slowly and poorly, mainly because he was dealing phonetically with all the words he had occasion to write. For ten minutes every day for a number of months I have made the experiment of having him look at a word for a moment and reproduce it quickly without "sounding" or spelling orally.¹ In the beginning he would need to look at simple words three or four times before he could complete the reproduction; he had not formed the habit of "taking a snapshot" of a word, and imaging it clearly. But he grew rapidly in this ability, and now he can spell quite satisfactorily, mainly because he has acquired the ability to grasp readily the *appearance* of words, and image them.

We have to notice next the current theory that spelling should be taught incidentally, not explicitly. The pupil, it is said, should be required to write his lessons freely, and in so doing he will gradually master words on the graphic side. Experience has shown, it seems, that the traditional practice of drilling on words taken from the ordinary text-book, where the aim was to present twenty or twenty-five thousand of the most-used words,² has not proved to be entirely successful. This is the static method of teaching. Pupils are found (I have followed the matter in detail with H., V., and S.) who can spell formal lists of

Teaching
spelling
incidentally.

¹ After a time, however, I found it advantageous to have him pronounce the word when he saw it, then spell orally, then write rapidly. This more complex process developed a feeling of familiarity with the word more readily than simply writing it.

² See Johnson, "Old-time Schools and School-books," pp. 167-233.

words, but who cannot be depended upon when they need to employ these same words readily in the expression of their thought.¹ In the latter case there are a number of conditions which are not presented in the former, so that a word might seem familiar to a degree in isolation, but strange when used in connection with other words in a sentence. To acquire ease and surety in the handling of words, they must be acquired in the situations in which they will be employed. But we encounter here a difficulty similar to that which has engaged our attention elsewhere; the beginner cannot economically attack complex spelling situations at the outset. He must first acquire some skill in writing a number of words individually before he can combine them in sentences in the expression of his thought. Elementary difficulties must be surmounted before complex ones may be attacked, else the pupil will be overwhelmed, and fail to organize his experience, which inevitably results when he is plunged precipitously into intricate situations without having had sufficient experience with the elements thereof. How, then, may we harmonize these requirements,—the learning of spelling through the writing of words correctly in written expression, while making a beginning with individual words? The principle which must guide us has already been expounded in application to other phases of linguistic instruction. The

¹ See the results of studies made by Cornman, "Spelling in the Elementary School" (Ginn & Co.).

learner must at the earliest practicable moment be required to employ in combination the words he has been writing in isolation. There should be no effort made to have him perfect his spelling by drilling upon formal lists; automatization must be secured mainly by synthetic experience.

Summary.

1. It has not been proven that there is a cerebral graphic word-centre in which verbal forms may be imaged motorially.
2. When the child begins writing words, the process involves visual and kinæsthetic, and possibly auditory and vocal, imagery. But with repetition it happens in time that these verbal images function only marginally.
3. Visual imagery seems to be prominent in the graphic processes of the majority of individuals; but experiment shows that it is possible to secure graphic reaction upon auditory stimulus without the intervention of visual imagery.
4. Kinæsthetic imagery is probably most prominent in the early stages of learning to write words.
5. If a child spells orally mainly during his early years, he becomes largely dependent in his written spelling upon vocal imagery. One who has learned to spell phonetically is also dependent upon vocal imagery.
6. In learning to spell, the pupil should put his emphasis upon graphic execution. He should be made to gain vivid visual impressions of words, and reproduce graphically as wholes to the greatest extent possible.
7. Spelling does not develop *pari passu* with reading; visual word-ideas are acquired more rapidly than graphic word-ideas. Spelling is a more analytic process than reading.
8. While there are advantages in the phonic method of

learning spelling, there is at the same time danger of carrying this work too far. The pupil must not become habituated to attacking all words phonically.

9. Spelling cannot be taught fully in an incidental manner. It will not take care of itself, though much can be accomplished if the pupil has opportunity to write freely in all his studies.

CHAPTER IX

DEVELOPMENT OF MEANING FOR WORD-IDEAS IN READING

1. Coalescence of Word- and Meaning-ideas

IN the preceding chapter our inquiry related primarily to the processes involved in the acquisition of visual verbal-ideas as mere forms; we have yet to consider how the learner may most effectively attain the ultimate end in learning to read, — the employment of word-ideas as symbols of meaning. It is apparent that this division of our subject is to some extent artificial and formal, but it seems to be justified for purposes of clearness in discussion. Word-ideas are not normally acquired wholly at one period in the learning process, meaning-ideas at another period, and their association effected at a still later period. It has already been indicated that many, if not most, auditory verbal-ideas and their correlated meaning-ideas are acquired practically simultaneously, so that they tend to coalesce; and as development proceeds they become indissoluble in all ordinary functioning, though they may be disjoined when, by attending to some special characteristic of the verbal form, the verbal-idea may momen-

The special problem.

tarily, and to a greater or less extent, be drawn out of the meaning complex with which it has coalesced. It is doubtful, however, if this principle holds generally in respect to the acquisition of visual verbal-ideas and their meaning; though it must depend largely, of course, upon the manner in which they are experienced at the outset.

Conditions
favoring
coalescence.

In his class in reading, the problem of the instructor is to teach his children to recognize (which means in this connection to interpret) readily and accurately the visual symbols that denote the experiences of daily life. As to method, the principles involved have already been mentioned. The word or sentence and the thing or phenomenon it denotes must be experienced, actually or ideally, under such conditions, temporal and adjustive, that they will tend to coalesce. This does not imply that when a visual symbol is being learned its meaning must be focal in consciousness. Indeed, it is probably best that it should not be focal. The meaning-idea is generally already well established when the child begins reading, and functions marginally in his adjustments, and this is sufficient in order that the word-idea may fuse with it. It is not only not necessary to have the meaning-idea focal in the early work in reading, but it is decidedly objectionable, since it impedes the mastery of the verbal form, and it renders conscious, slow, and laborious, processes that should become rapid, easy, and even automatic. The point is that meaning should be only marginally, not focally, aroused

in all early reading, which concerns familiar experience, at any rate. Of course, we have here a very complex matter, which is extremely difficult to treat effectively on the practical side. In the past, word-ideas were often gained without any meaning-ideas being associated therewith, either focally or marginally, and this proved a wasteful proceeding. On the other hand, some modern teachers make meaning-ideas so prominent in their work that the pupil is seriously handicapped in acquiring word-ideas. The latter are really the new experiences for him, and they should receive his main attention, but always with the meaning near the focus. As the pupil proceeds, and gains a considerable vocabulary of word-ideas, then gradually he will enter fields where both the word and the meaning will function marginally, the word retaining just the feeling left from the original focal adjustment.

Huey,¹ touching upon one phase of the principle in question, says that when he began his special study of this subject it seemed "as though reading was dead, inane, — really *not* reading at all unless there was constant translation into the realities symbolized"; but "I found various good thinkers and workers in science who seemed to be predominatingly verbalists in their reading."² I am not sure," he continues, "but that the most of us read by

Reading
without
translation.

¹ E. B. Huey, "On the Psychology and Physiology of Reading," *Amer. Jour. of Psych.*, Vol. XII, 1900-1901, p. 309.

² We might expect this when we recall the results of Galton's tests of the imaging power of men of science.

far the most of our words and phrases without appreciable translation. Such verbal readers and thinkers may be analogous to a banker who does an immense business in terms of drafts, banknotes, checks, etc., — controls all sorts of situations by them, is free to convert them into property or whatever else they represent at any time, but would be much hampered if he actually had to do this converting very often. So such a reader carries on his reading and thinking in a kind of shorthand, uses a mental algebra, lives in a word-world, a world of symbols. He can thus be more systematic, precise, expeditious; and after all, his method may not be so fundamentally different from that of the reader who habitually translates into images; for the latter is but a dealer in other symbols of the same realities; symbols which he takes comfort in thinking are more like the realities than those in which the verbalist revels. Such use of words, however, cannot and should not come until a broad and deep basis for it has been laid in terms of experience with the realities and with the images which more nearly represent them. Words, except as they are correctly and intelligently convertible, are certainly most deceptive and dangerous symbols for the reader as for the thinker."

For economic and effective reading, then, symbols and the content they symbolize must be in experience together, the former focally, and the latter marginally, except where both word and meaning are unfamiliar. It is particu-

larly important that verbal forms should not go beyond reasonably well-assimilated experience. It is not necessary to dwell upon the principle that it results in serious waste to endeavor to master symbols that cannot coalesce with the content they symbolize for the reason that such content is beyond the pupil's grasp.¹ The one needful thing in learning words quickly is that the learner should readily come to acquire the feeling of familiarity toward them; but this familiarity cannot be gained, except at great loss, so long as the content lies outside of well-integrated experience.

The introduction of symbols must not go beyond the learner's range of experience.

It is cause for general rejoicing that the old-style reading texts which contained passages far beyond the comprehension of the pupils² for whom they were designed, are passing out of the schools, though they have not yet fully disappeared.³ As Professor Hinsdale has said:—

¹ In some experiments made upon V. especially, it was found that he would learn words with far greater readiness if they related to interesting content within his experience than if the content was beyond his grasp. Many of the words in Longfellow's "Hiawatha" are quite complex on the side of form, but children learn them without difficulty. But V., at eight years of age, long after he had read "Hiawatha," attempting to read a number of the selections in the "Hawthorne Third Reader" made very slow progress because the content was beyond his grasp. Consequently he could not gain the feeling of familiarity with the words, though he could make them out by phonic analysis.

² See Johnson, "Old-time Schools and School-books," pp. 69-100 and 233-301 (New York, 1904); also Reeder, "The Historical Development of School Readers," etc. (New York, 1900), in "Columbia University Contributions to Philosophy, Psychology, and Education."

³ "The meaninglessness to a young child of the words of the ordinary

“ In many of the reading-books now in use in the schools, the pithy sayings of learned men, the aphorisms in which moralists have deposited a life of observation and experience, the maxims of philosophers embodying the highest forms of intellectual truth, are set down as First Lessons for children; as though because a child was born after Bacon and Franklin, he could understand them, of course. While a child is still engrossed with visible and palpable objects, while his juvenile playthings are yet a mystery to him, he is presented with some abstraction or generalization, just discovered, after profoundest study of men and things, by some master intellect. . . . Erudite and scientific men, for their own convenience, have formed summaries, digests, abstracts of their knowledge, each sentence of which contains a thousand elements of truth

lesson is not at all realized. I take as an instance a sentence selected at random from a well-known geography book for young children: ‘Rock salt abounds in . . . Cheshire, as do also salt springs, from which a vast quantity of salt is made by evaporation.’ I have taken some pains to discover the concepts attached to this. There is generally but one in children’s minds, — salt, the white powdery substance of peculiar taste, — table salt, in fact. ‘Rock’ salt conveys no idea whatever, and before the rest of the sentence can give the clear mental images which ‘understanding’ implies, an elementary but clear knowledge of the phenomena of solution, rainfall, springs, evaporation, and of the crystalline nature of the substance are required. The whole of these make up the mixed concept formulated in the sentence quoted, and until these ‘apperceiving concepts’ are formed there can be no grasp of the complex one. This is somewhat difficult to realize, but the study of children will convince any one who takes the necessary trouble that it is the fact.” De Brath, “The Foundations of Success,” pp. 66-67.

that have been mastered in detail; and, on inspection of these abbreviated forms, they are reminded of, not *taught*, the individual truths they contain. Yet these are given to children, as though they would call up in their minds the same ideas which they suggest to their authors.”¹

It may be added here that the process of fusion between word and meaning is aided when the content has some vital connection with the life interests of the learner at the moment. Meaning-ideas which are not felt to be of value by the individual probably have a low degree of coalescing power. If fusion is to occur easily, there must be a certain degree of warmth in the content, if for no other reason, at least to give some impetus to master the symbol which may in the future reinstate the content. The tendency of the day to utilize fairy stories, folk tales, Mother Goose rhymes, “Hiawatha,” some of the stories and poems of Field, Stevenson, and others, the “Peter Rabbit” and “Clean Peter” sort of stories, and also “Robin Hood,” “Robinson Crusoe,” etc., is along the right line. At the same time it should be recognized that the content of a reading-book can be made so novel and engrossing that it will, temporarily at any rate, secure most of the learner’s attention, and he will make slight headway in mastering technique. In experiments made with a strikingly illustrated first reader, I found that V. would keep drifting away from the words to the pictures;

¹ Hinsdale, “The Art of Study,” p. 72.

and whenever some activity was described in which he was supremely interested, he would tend to run off on a long story as to how he and his playmates performed it. In a case like this, feeling is aroused too strongly, and the perception of verbal forms is interfered with rather than promoted.

Content cannot determine wholly the introduction of word-ideas.

Again, we cannot let the content determine altogether the sequence and frequency of introducing new verbal forms to the pupil. Economy requires that we observe the principle of apperception in the gaining of verbal- as well as meaning-ideas. The words introduced to the learner at any time, should, so far as possible, be apperceivable on the side of technique by the words already mastered. This means that new word-ideas should not be taught without regard to those already acquired, even though in their meaning they may be entirely appropriate. And further, in order that a word may be learned economically, it must in the first stages of learning be frequently experienced in connection with its content. When the learner attacks a word once this week, and then again once next week, and not again until the following week, each impression is likely to be obliterated before the succeeding one is received. Economy requires that impressions follow one another rapidly so that they may become cumulative, and gain force enough to leave permanent effects in memory. At any rate, it is fatal to efficiency to be continually introducing strange words without having the pupil react

on any of them frequently enough to acquire familiarity with them.¹

2. Acquisition of Meaning by Definition

The method of making new words intelligible by learning the definitions of them given in the dictionary has always occupied a prominent place in the teaching of reading. Now, it will be granted without argument probably that a new symbol may acquire meaning if it be linked with other symbols that are rightly understood. Gained in this manner, the new term, when seen, reinstates its associates, and through them it acquires a feeling of familiarity. With repetition, the verbal mediators of the new term gradually subside, and for all practical purposes there is developed direct association between it and the meaning-idea; in effect the new term is substituted for its synonyms. But there are serious difficulties attending this method. Just now I hear a girl nine years of age defining "exertion." In her school she is given ten new words every day which she is to look up in the dictionary, and write out their definitions. She finds in her dictionary that "exertion" means "strife, endeavor, strain." When she is asked to interpret

The process of learning by defining.

¹ Cf. Bryan and Harter, the *Psych. Rev.*, January, 1897, Vol. IV, pp. 27-53; and July, 1899, Vol. VI, pp. 346-375. See, also, Swift, "Studies in the Psychology and Physiology of Learning"; Reprint from *Amer. Jour. of Psych.*, April, 1903, Vol. XIV, especially pp. 26-32; and "The Acquisition of Skill in Typewriting," *Psych. Rev.*, August 15, 1904, pp. 295-305.

the terms used to define the strange word, she is confused. She has just a faint notion of what they signify; in one sense she is attempting to "define the unknown by the incomprehensible." The difficulty here is not necessarily inherent in the method *per se*, but in the failure to employ it effectively. Any one at all familiar with the situation in our schools knows that much of what has been done under the head of definition in reading has been simply mechanical memorizing of series of words, no one of which was enriched with vital content. The dictionaries used by pupils are, according to my observations, open to serious objection, because they divest words of all the concrete accompaniments that would really make them intelligible to the learner.¹ The adults who make the definitions comprehend the terms they use, and they employ terms denoting the highest generalizations in the subjects treated; but they forget that the learner lacks the experiences which are essential to give these abstractions proper content.²

¹ "The dictionary can be of service only where experience can interpret the dictionary. A child may learn from the dictionary that an emperor is a monarch, or the head of an empire, but unless his experience has made him acquainted with the synonyms he is no wiser than before, — indeed, he may be all the more bewildered and perplexed from the very number of meaningless symbols. Those of us who were in the public schools twenty-five years ago will recall what a vast amount of time and enthusiasm was killed in worse than useless dictionary work in connection with reading and spelling." Chambers, *op. cit.*, p. 49.

² To illustrate: a child of eight at my side reading in the paper comes to the word "warfare," and asks its meaning. The parent says it is "a combat between two nations." Both *combat* and *nations* are unknown

Very brief definitions, so characteristic of children's dictionaries, are apt to prove especially futile, since these require the use of the most abstract terms. In order that a novel word may acquire its true significance for the novice, situations in which it may be rightly employed and which grow out of his every-day experience must be given. The learner will gain the meaning of a new symbol most economically and effectively when he finds it often functioning in familiar situations to which it properly relates. The dictionary method is at fault principally because it treats words as static, isolated things. Much reading, even if the meaning of every word is not entirely clear at the outset, but if the sense as a whole is rightly apprehended, leads in the end to the most effective mastery of meaning-ideas for visual word-ideas. Children, as soon as they begin reading for pleasure, become self-helpful in extending and correcting verbal meanings. Many words which H. at eight did not understand at all, as she met them in her reading, she can at nine give the meanings of with considerable accuracy and completeness; and her development in this respect has come about mainly through her spontaneous reading. She has not heretofore had training in constructing formal definitions. She has gained her meanings through the coalescence of various terms with situations

The most economical method of gaining meanings.

terms to the child, and so he has been left just about where he was before he asked the question. Reading-books and dictionaries usually define terms in much the same unsatisfactory way.

constituting the content of her reading. This content was determined in part by the pictures in her books and in part by the verbal forms, enough of which were understood in all books and selections to give general direction to the images and feelings awakened.

As Chambers¹ puts it,—“the best way to promote the growth of content in words is to allow the child to infer the meaning from the context. This is the way we all learn language in the beginning. Meanings come to us as babes in that way, long before we can utter their symbols, and any other method must be but a substitute for or an abbreviation of this. So long as the number of new words is small, and their use in the context is sufficiently varied, there will be little trouble for the pupil in getting the sense. For an alert teacher it is an easy matter by questions, varied illustrations, and informal but well-directed conversation to clear away any uncertainties that may arise in connection with the ordinary new word. The dictionary will give help, too, but must not be allowed to serve as a substitute for experience. The greatest difficulties will arise, of course, in the minds of pupils from uncultured homes where the daily conversation furnishes no assistance. For such the teacher can only increase her vigilance, extend her individual attention, question and illustrate more fully, and most of all encourage them constantly in the reading of books that will quicken the growth retarded by home conditions.”

¹ *Op. cit.*, p. 50.

3. Oral *vs.* "Silent" Reading

The desirability of reacting to visual words subconsciously suggests a further question of method of teaching which is of considerable importance. It has been suggested that the reader who, wishing to gain the thought from the printed page, lingers over the words in their technical aspects is apt to be turned aside from his real purpose to attend to mere verbal form. Now, the greater the number of the modalities that are involved in reacting upon any word, the greater is the tendency of the word-idea to alone occupy the focus of consciousness. If the learner, upon seeing the word, audizes it distinctly and vocalizes it, there is danger of these processes monopolizing the attention. In reading, the auditory and vocal processes should be reduced to the minimum. In our teaching, however, we have to deal with the original tendency to interpret visual verbal forms through the correlated auditory and vocal forms; and we can in our methods make these latter processes very prominent or reduce them to a subordinate place. When the child begins his reading he looks at the words and speaks them, and so establishes vocal-audio-visual-verbal-patterns. But these patterns comprise auditory and vocal in excess of visual elements; the tendency is for the former elements to become most prominent whenever the learner sees the word. As a matter of fact, young children mumble their lessons, even

Simplifying
the pro-
cesses in-
volved in
reacting
upon words.

when commanded to "study to yourselves." If they be punished for "studying aloud," they will whisper as they read. They seem to be unable to master their tasks, which means in many schoolrooms to memorize them so as to give them back verbatim, unless the ear and vocal cords assist in the process. Further, the children I have tested, who have always read orally and who have whispered their lessons in learning them, seem unable to get the meaning from a passage unless they can say over the words. There appears to be no route from the visual verbal-idea to the meaning except through the auditory verbal and vocal verbal processes, which remain very conspicuous; although students like Franke¹ think it is possible to train one so he can go direct from the visual word to the idea.

I have observed that in the case of children who are required to push ahead as rapidly as possible in getting the meaning of a paragraph "silently," the vocal processes appear to gradually diminish in prominence until in the end they disappear, so far as one can tell *ab extra*. Of course, it is not probable that these processes are often if ever completely short-circuited;² they continue in a more or less

¹ See his "Die Praktische Spracherlernung auf Grund der Psychologie und der Physiologie der Sprache," Leipzig, 1896, 3d edition.

² Compare the following: "A purely visual reader is certainly not an impossibility, theoretically at least. The direct linking of visual form to ideas, cutting out of circuit the somewhat cumbrous and doubtless fatiguing audito-motorizing mechanism, would seem to be a consummation to be wished for, from some points of view. When the proper preliminary

distinct condition as "interior" speech.¹ But the principle is that with right training the visual verbal-idea may acquire the power to reinstate the meaning-idea as fully as is essential for understanding, and with very slight aid from the auditory or vocal factors.² H. was originally a "lip-reader," as all children probably are at the start, but after a half-dozen years of training in "silent" reading, the visual verbal-idea, so far as I can make out, is the only prominent technical element in the process. It seems likely that the effort to read rapidly will itself force a way from the visual verbal-idea to the meaning, reducing the prominence of all intermediate factors. On the other

investigation of the reading-process has been made, this will be one of the most important subjects of pedagogical consideration. Practically, however, I have not found the purely visual type." Huey, *op. cit.*, p. 297. See, in this connection, Secor, *Amer. Journ. of Psych.*, Vol. XI, p. 225, who says he has found some readers who are apparently pure *visuels*.

¹ The literature on this topic is quite extensive, but see, especially, Collins, *loc. cit.*; Elder, *loc. cit.*; Ballet, "Le Langue Intérieur"; Stricker, *op. cit.*; Egger, "La Parole Intérieure"; Janet, *Revue Philosophique*, November, 1892; Baldwin, "Mental Development in the Child and the Race, Methods and Processes," Chap. XIV; Wylie, "The Disorders of Speech"; Lichtheim, "Aphasia," *Brain*, January, 1885; Jastrow, "Speech and its Defects," *Dict. of Phil. and Psych.*, Vol. II, pp. 569-579; Breese, "On Inhibition," *Psych. Rev.*, Vol. III, and Monograph Supplement.

² I have tested myself in this matter for a number of years, and I am confident that even an adult can train himself to push from the visual word or phrase to its meaning without giving much place to the auditory and vocal elements. I can do this more effectively now than I could a decade ago.

hand, slow oral reading from the beginning will probably give the auditory and vocal elements marked prominence in the reading process.

In reading,
eye-minded-
ness must
be culti-
vated.

Modern experiment has shown, I think, that individuals who rely upon the eye chiefly in their reading forge ahead more rapidly than those who depend to a large extent upon the ear and the lips for their cue in making out meaning. At the same time, the rapid readers gain the thought more completely and effectively than the slow ones. Experiments made by Quantz tend to prove the statement here made.¹ In comparing rapid and slow readers, he says: "The degree in which the rapid readers excel the slow in eye-mindedness can perhaps best be understood by a comparison of the extreme classes. The 'very slow' readers (3.9 words per second) reproduce 89.1 per cent as much of the visual selection as of the auditory, while the 'very rapid' readers (7.3 words per second) are able to recall 123.2 of visual for every 100 of auditory; that is, the ratio of reading rates between slowest and fastest readers is 3.9 to 7.3 (1:1.87), while the ratio of the visual tendency as compared with the auditory is 89.1 to 123.2 (1:1.38). On the principle of correlations this result shows eye-mindedness to be a rather strong factor in the determination of reading rates.

"It might be supposed that greater rapidity was gained

¹ However, Secor, *loc. cit.*, thinks audition and articulation may be of some aid in reading, though they are not absolutely essential.

at the sacrifice of exactness or of intelligence. This supposition is negated by an examination of the amount and quantity of the material reproduced. A comparison between the ten most rapid readers and the ten slowest shows that the rapid readers remember more of the original thoughts, and that the character of their reproduction is much higher, both generally and with reference to expression and to logical content. In the auditory tests the ratio of slow to rapid readers is 14.8 per cent to 20.7 per cent in the *number* of thoughts. In *quality* the percentages are 47.8 for slow readers, 60.3 for fast. The same comparison in the visual tests results as follows: percentage of thoughts reproduced by slow readers, 14.9; by rapid, 24.4. Quality: slow, 48 per cent; rapid, 73.3 per cent. The difference in favor of the 'rapids' is consequently much greater than in the auditory tests, indicating again that rapid readers are, as a rule, of the visual type. . . .

"To emphasize this relation a comparison of extremes might be shown as follows: the ten slowest readers show almost double the amount of lip-movement that the ten most rapid do. Or again, determining rate by means of lip-movement, we have: the ten most decided lip-movers read 4.1 words per second; that is, they are between the classes 'slow' and 'very slow,' and nearer to the latter; while the ten who show least movement of lips read 5.6 words per second, — very close to an average 'rapid.' " ¹

¹ Quantz, *Psychological Review*, Vol. II, pp. 28, 38.

It seems highly important, then, to develop in the pupil the habit of reading rapidly all ordinary literature, getting his cue as to meaning principally through the eye.¹ In order to accomplish this most effectively, he must be got into the way as soon as possible of regarding all the technique of reading as a means to an end, not as an end in itself. He should not esteem technical accuracy too highly, so that he will accord it too much attention. In revealing what he gets from his reading he should often be required to do the thing which is suggested rather than to express it in words merely. The prime test of successful reading, instead of being correct pronunciation, must be ready and appropriate action denoted by the reading. If the pupil

¹ I realize that oral reading should not be wholly neglected; but in modern life *visual* reading is of supreme importance, and should always receive chief attention. I may quote, with approval for the most part, the following from Lewis:—

“One of the quickest ways of learning to know good English is oral reading. It is an invaluable habit to read aloud every day upon some piece of prose with the finest feeling the reader can lend to it. In no other way can one so easily learn to notice and to remember new words. In no other way can one catch the infinitely varied rhythm of prose, and acquire a sense of how a good sentence rises gradually from the beginning and then descends in a cadence. This rise and fall of the sentence is not merely a matter of voice; it is a matter of thought as well. Similarly, the law of unity in the sentence, a law which prescribes what shall constitute a complete thought, is curiously bound up with the laws of the human voice. A clause that is too long to be pronounced in a single breath is usually clumsy in logic. Furthermore, it is the best means of detecting those useless repetitions which betray poverty of vocabulary.” E. H. Lewis, “A First Book in writing English,” p. 12.

does not respond in appropriate action to what he reads, or does not show that he has correctly comprehended it as he describes it, then we may lead him to the precise point where the difficulties occur and help him. In this way the learner grows constantly in the power of rapid interpretation, which requires the ready grasping of large verbal units in one pulse of visual attention, without giving unnecessary factors a chance to make themselves felt appreciably. When one reads for the purpose of pronunciation mainly, there is no incentive to make progress in rapid interpretation; indeed, continual oral reading is likely to prevent the ready fusion of elementary into larger and larger units.

1. The problem in teaching reading is to secure in the most economical and effective manner coalescence between word- and meaning-ideas. **Summary.**

2. Word- and meaning-ideas coalesce most readily under temporal and adjustive conditions, whereby symbols and the content they denote are experienced together, and the learner appreciates that the content is of value, and the symbols will aid him to secure it in future adjustments.

3. For the novice it is best that content should not be focal, but only marginal in consciousness when word-ideas are being acquired. However, when the symbols concern content outside the experience of the learner, it is essential that they should both become focal in learning.

4. One who has acquired reading in the most effective manner does not ordinarily have meaning-ideas focal in con-

sciousness as he reads, but he could make them focal should the occasion require it.

5. Word-ideas must not be learned unless they can at the time of learning fuse with interesting and well-integrated content.

6. However, the introduction of word-ideas cannot be determined in all respects by the requirements of content. New symbols must be apperceivable on the side of form by symbols already mastered; and they must be frequently repeated in different contexts until they can be reacted upon automatically.

7. In the past, teachers required pupils when attacking new words to learn the definitions of them found in the dictionary. But often the terms used in the definitions were no better understood than the terms to be defined, and so no progress was made in learning.

8. The learner will acquire the meaning of a new symbol most economically and effectively when he finds it often functioning in a variety of familiar situations to which it properly relates.

9. It may perhaps prove of service to the learner to become acquainted with the dictionary definition of a term. after he has seen the term functioning in different contexts. But this must always come after, not before, he has had experience with the term in its functional aspect.

10. The greater the number of the modalities that are involved in reacting upon any word, the greater is the tendency of the word-idea alone to absorb the attention, and so to defeat the end of reading. Therefore, we should employ methods which will reduce the auditory and vocal processes to a minimum, or eliminate them altogether if possible. The learner

should freely be required to push ahead and get the content of his reading through the eye with the slightest possible aid from audition and vocalization. Eye-mindedness is of special service in reading.

CHAPTER X

DEVELOPMENT OF EFFICIENCY IN ORAL EXPRESSION

1. Efficiency as Special, not General

Profound
thought
but dull
expression.

DOUBTLESS every reader can count among his acquaintances persons who on certain occasions speak in a halting and ineffective manner, and yet who may be grammatically correct in all their utterances. The writer enjoys the friendship of a learned professor who is ill-at-ease in social gatherings, mainly because he cannot employ effective expressions readily enough to keep abreast of lively conversation. He is a man of profound thought in his specialty, and facile with his pen in his own field; but when he confronts a company of men and women in a drawing-room, discussing in a racy manner matters of general interest, he becomes confused and unduly restrained. He is usually desirous of presenting his views on the subjects under discussion, but his ideas do not embody themselves in appropriate terms speedily enough for the occasion. And when he does attempt to express himself on such occasions, he does not make a deep impression, for his talk seems rather academic and "heavy," though every one realizes

that it is probably "sane." His expression lacks "brightness," "cleverness," "brilliancy." It is devoid of the peculiar figures and effective phrasing which characterize the speech of the majority of the company. People commenting upon this man's behavior in the drawing-room remark that "he does not know what to say"; but he is not thus afflicted in his laboratory, or when he is discussing scientific matters with his colleagues.

It is a fact of simple observation that an individual is rarely easy and effective in every linguistic situation in which he may be placed. A student may be ready and entirely successful in his linguistic efforts on the athletic field or in any company of athletes, but dull and incompetent in the class room; and the converse may be true as well, a fact which is illustrated in the case of the typical college instructor. Again, a man who follows the race-track is likely to have fulness and richness of speech when he talks of matters pertaining thereto, though when he finds himself among university people he may be speechless, or at least extremely commonplace. The principle is clear: the horseman has at his tongue's end the terms and phrases which are effective among racing men; but the language of a faculty gathering is in a measure a foreign tongue to him. Then, what is more important, he has, in the environment of the race-track, overcome the inhibitions which usually retard reaction, whether linguistic or otherwise, in every situation which is unfamiliar; and this indicates why he

**Efficiency
limited to
special situations.**

is awkward, static, and ineffective in speech when he enters the university circle. Now, to turn about, a professor may be very fluent in his class room, but backward and commonplace in his linguistic reactions at the race-track. Further, he may understand, in a way, all the terms used at the latter place, and he may be able to use them easily in his own room; but when the test comes of using them with right and telling effect at the crucial moment, he may find himself quite unequal to the occasion. At the race-track there are peculiar stimuli impinging upon him which he never experiences in his study; but the habitué has responded often to these stimuli in such a way as to utilize the energy which they set free in appropriate linguistic as well as other reactions. The latter can talk most fluently when he is in the midst of things at the track; whereas the college specialist is likely to become tongue-tied under similar conditions. The varied peculiar impressions distract him; being novel, they force themselves in unrelated connections upon his attention; he does not know what is vital and what merely incidental. Some stimuli incite a certain line of action and expression; while others stimulate something different; and as a result he may not react positively in any direction, for the tendencies toward reaction may neutralize one another, and leave him static.

The principle is universal in its application; a man is effective linguistically in those situations, and those only,

in which he has been often placed, and in reaction upon which he has been constantly urged, by force of circumstances, to express himself readily and to the point. To be able to express one's self effectively in the quiet of the study does not insure fluency and efficiency on the platform, on the street, or in the reception hall; though it is a common belief that a "man of learning" can express himself readily on all occasions. During school life, it is often the case that an awkward, blundering linguist in the class room is a past-master in the speech of the street. On the other hand, one who sees much of group life among the young knows that not infrequently boys and girls who are always ready in their classes, and rarely need assistance or correction in their language, are wholly at a loss to know what to say in the give-and-take experiences of the playground. Again, children who may be very "proper" in the drawing-room, and capable of assisting their mothers in entertaining guests, may be quite incompetent when they are placed with aggressive companions who are expressing themselves regardless of the conventions of adult life. The writer has among his acquaintances several men who are very fluent and effective on the lecture platform before a large audience, but they are quite commonplace before a small group of acquaintances, and they are not at all ready in general conversation in a mixed company. They seem to require the stimulus of large numbers, where individualities are obliterated, in order that they may be linguistically

free and forceful. The principle in question might be illustrated at great length by instances drawn from all sorts and conditions of people.

2. The Essential Factor in the Development of Efficiency

Efficiency
due in a
measure to
native en-
dowment.

Looking now at the developmental course in attaining efficiency, we must note at the outset that it is without doubt the product of original nature in some part, though to what extent it seems impossible to determine exactly in individual cases. H., V., S., and K. have been reared under similar linguistic conditions and training, except that those last named have had the advantage of association from the beginning with the older ones. But V. lagged behind the others in linguistic ability, though he was always superior in general motor skill; S., two years his junior, outstripped him in linguistic development, and K. was farther along at three years than V. at six years. V. never could recall new words as readily as the others. "I forget its name," he often would say, in speaking of objects with which one would expect him to be quite familiar; or "I cannot think of that word you used." He does not seem to be verbal-minded, as his sisters and brother are; but their excellence in this respect cannot be due to any extraordinary linguistic experiences which they have had beyond him. A child's temperament, whether he be socially inclined or not, whether he be joyous or morose, and so on, will, of course, react upon his linguistic activities and abilities.

One whose temperament keeps him away from people, or keeps him silent in their presence, does not need to acquire great linguistic skill, since language serves the sole purpose of facilitating communication.

It is a matter of tradition that "gift of gab" runs with the blood. It is said to be a trait common to the Irish and the French, but not so characteristic of either the Germans or the English. It is probable that racial peculiarities in this respect have been unduly magnified; and yet there is doubtless some truth in the common saying. So far as one can tell from observations of pupils in the schools, however, these peculiarities do not manifest themselves to any marked extent in children of foreign parentage who have been born in America, and reared under similar conditions with American children in home, school, and community; except as differences in home opportunities and home training will produce characteristic results in the linguistic ability of different children. But this ought not to be regarded as a matter of racial, but only of social, inheritance. For some years I have studied the linguistic abilities of a group of children, watching them grow in fluency and efficiency from year to year, and I am confident no one could tell the national antecedents of any of them simply from the manner in which they express themselves. I have observed, however, that certain foreign-born parents tend to perpetuate in their homes in our community the methods of training children in their native country, and

this has a characteristic effect upon the linguistic development of the young. To illustrate, a certain father, from one of the North of Europe countries, believes his children should keep quiet, listening instead of talking; and these children are not as ready linguistically as most of their associates. Again, an Irish father and mother, whose tongues are very agile, and who are distinguished for "Hibernian wit," have stimulated all their children linguistically, for they are engaged in linguistic play with them much of the time. However, if the children from these two homes were removed from their parents before they entered the linguistic period, and brought up in a New England Yankee home, there is no evidence to show conclusively that they would reveal national differences in linguistic ability.

Effective
expression
in group ac-
tivities the
first requi-
site.

Turning now to the factors in experience which determine linguistic efficiency, the general principle may be enunciated, mainly in view of what has been said in previous chapters, that the child will grow in ability in just the measure that he is made to feel the necessity for effective expression in a variety of typical situations. When the doctrine that a child should be seen and not heard is enforced by parent and teacher, the individual will gain comparatively slowly in expressive power. It is probable that, as a rule, the first-born in a family develops linguistically with less momentum and also less achievement than those who come after him, although native endow-

ment may in some cases play a more important part than superior linguistic opportunity. Country children are usually much behind city children of their age in readiness, effectiveness, and range of expression. University students coming from rural communities are at a disadvantage, compared with city-bred students, in general expressive power, though they may excel in the formal recitation work of the class room. The evidence (which might be cited at great length) is conclusive to the effect that if a child comes in contact with but few individuals, and has little to say to even these few, he will have slight chance of becoming efficient, except in very special sorts of situations. To illustrate the principle by a case which the writer has studied, if the child converses almost wholly with his grandmother, his linguistic ability will be determined by her peculiar reaction upon his expressions. He will develop efficiency in the particular kind of expressive means which she approves, and which her personality incites. If, on the other hand, he has not only the grandmother, but his father, mother, brothers and sisters, the minister and teacher, and numerous playfellows — then his opportunities and his necessities will be far greater than in the first instance, and his skill in expression, supposing he has average native power, will be immensely extended and perfected. Each person with whom he has vital intercourse will stimulate characteristic qualities of expression. One can note this principle operating constantly in child-

hood. An observing parent can often tell at night, simply from the general character of the conversation, with what persons his children have spent the day.

The peculiar terms used in one's talk, the rapidity of utterance, volume of voice, idiomatic expressions, and so on, are all determined to some degree by particular social groups. A neutral or taciturn companion, either in childhood or in youth, will not call forth sharp, definite, rich and swift-moving expression from those who fraternize with him. On the other hand, if the learner has companions who are far ahead of him in linguistic skill, he may not be able to react at all, and so he holds back and lets the other fellow do all the talking. V., at the age of five, acquired just such a playfellow, with whom he did little but listen, for he apparently realized that he was entirely out-classed. A child must associate with those of about his own attainments, where give-and-take, competitive relations may exist, in order that he may grow in expressive ability, for this results in pressure being brought to bear on him constantly to make his speech go directly to the point. Competition is as essential to the life and development of expression in the individual as it is to any other form of activity. This is doubtless why children make rapid linguistic headway when they are much together, engaged in spirited, vital play. H., as an example, gains more in linguistic power from her relations with her playmates than she does from the formal exercises of the school, or

even from her reading, or from her conversation with her elders. With her playmates the new interests coming into her life from time to time are worked over linguistically in a great variety of ways, and with a spirit and skill that she does not exhibit quite so markedly at other times. In phylogenesis, language was developed to facilitate group activities, and it seems to require group relations to develop it in the individual.

3. Development of Efficiency through the General Activities of the School

The school seems to be deficient in the matter of effective linguistic training, if the opinions of many critics of the day are entitled to consideration. We are hearing it said by many careful observers that the school fails to meet the first requirement for the cultivation of effective expression, since pupils are put into seats, and commanded to keep quiet. Their learning consists in memorizing lessons which they render back verbatim in the recitation. There is little chance for spontaneity or originality in such a régime. In the language period the child's experience is formal and mechanical. It is claimed by the critics that this training is quite remote from the situations that are encountered most frequently in daily life. The pupil in a formal recitation is really not *expressing himself*; he is reciting the thing he has learned, and which is more or less unrelated to his present thoughts, activities, and interests. Under

The shortcomings of the school in linguistic training.

a regimen of this character, he does not come into such vital give-and-take relations with his teacher and his classmates as must exist between himself and his fellows in real life. In brief, the class-room situations are not close enough to those which will be presented outside, so that experience in the one will be of material help in the other. Again, the pupil who in the school is exercised in formal declamation is not gaining experience which will be of much service to him when he is called upon to address his fellows upon some subject of immediate interest; one sees good declaimers, according to prevailing standards, of other people's thoughts, who make bad work of expressing their own thoughts, such as they are.

Linguistic
training
in all the
studies of
the school.

We are here considering mainly the influence of the school in the development of linguistic power in its general activities, and not in its special "language-work"; and a further word must be added before this topic is abandoned. "Every subject should furnish opportunity for language-training" is a phrase heard very frequently now in educational conventions. Teachers are becoming convinced that ability in expression cannot be influenced greatly by a few minutes' special training each day, if it is neglected on other occasions. And how are teachers putting the new principle into effect? Apparently they are interpreting it to require that in all studies they should correct the more common grammatical errors, and they should give some attention to what may be called logical or formal

clearness in expression. In the prosecution of this aim, pupils are often held to stereotyped forms which lack the freshness, fire, and vigor of every-day expression when the current of thought moves swiftly. Of course, much depends upon the teacher and the spirit of the recitation, no matter what may be the theory followed. One may see schoolrooms in which there is a richness of life which cannot be contained by formal, mechanical expression. In such places pupils grow rapidly and strongly in linguistic ability, as they do in all other respects.

One may gain a valuable lesson from a study of the influence of school training upon the vocabulary and general expressive ability of a child when he enters upon a new study, as geography, for instance. If one asks of such a pupil formal geographical questions, he may get formal answers; but this is not to say that geographical study has added to the pupil's linguistic equipment for the situations of every-day life. This is doubtless due to the fact that geographical study generally exerts little influence upon the pupil's spontaneous thought, and so there is no demand for the geographical type of expression. But when geography is presented in a concrete, vital manner, and is made a subject for free and ready discussion among pupils, we find them taking it up in their play activities, when geographical terms and phrases appear in their spontaneous expressions. The same sort of thing happens in principle in respect to all the school studies when they are

brought close to the pupil's life, and wrought into the body of his every-day thought and feeling. In each study the teacher, at the right moment, when the pupil is striving to express himself effectively, supplies terms which may amplify deficient vocabularies; and the teacher also suggests correct inflection and syntax in the place of faulty forms, doing this, of course, in an incidental way, for the most part. This is precisely the way children grow linguistically outside the school; and the pupil's nature does not change the moment he crosses the threshold of the class room. When children discuss their studies freely, each profits by the most effective expressions of all the others. It does not take any particular child long to perceive, or rather to *feel*, what varieties of expression are the most potent, what style of discourse hits the mark oftenest. A wise teacher will aid her class in appraising various forms of expression by making the best of them conspicuous in one way or another. She may say, "John, I like the way you said that; say it again, so that all may hear it." Or, "Children, which of these expressions seems the best to you?" and so on *ad libitum*. Under such conditions, pupils are in an attitude to seize with avidity upon any linguistic modes or forms that will aid them in making their own expressions stronger; and when they are in need, and realize it, is the psychological moment in which to offer them the thing that will be of help to them.¹

¹ We appear to be improving constantly in the direction of making our language-training less formal. For one thing, we are abandoning

The adoption of the topical method of recitation, in the higher grades especially, but in all grades to some extent, will contribute much toward effective language-training. By this method the teacher can, in the manner indicated above, aid the pupil continually in enriching his vocabulary. And what is of even greater importance, perhaps, the pupil may in this way acquire the habit of expressing himself at some length in an orderly, connected fashion, instead of in a scrappy, disjointed manner. When the pupil never uses but a single sentence at a time in the class room, he cannot be said to be making much linguistic headway, for in the situations of life something more is demanded than mono-sentential expression. And then, connected expression exerts a direct influence upon connectedness in thought. The two grow *pari passu*. You

the give-it-to-me-in-a-complete-sentence philosophy. We once thought the use of the *complete sentence* was essential to the development of linguistic ability, but we see now that to constantly insist upon it may arrest growth in the ready use of language. It may exalt linguistic formality, and differentiate the language of the schoolroom from the language of daily life. We are beginning to realize, it seems, that when the pupil has something to talk about that requires the use of complete sentences if any headway is made, he will employ them without fail. I have known children, whose range of expression met adequately the needs of varied and rich experience, to enter the primary school, and be held up constantly in their efforts at expression because they would not say, "*I have a pencil*" in response to the question, "What have you?" One might suppose the teacher thought the child had never used sentences, and she must develop them *de novo*. This is the sort of work that has made the linguistic training of the school more or less valueless, and possibly even detrimental.

can encourage orderly, related thinking by demanding orderly, related expression, a principle which has not been sufficiently appreciated by teachers in the past.

4. Development of Efficiency through the Study of Linguistic Forms

The
methods
employed
in the
schools.

In most schools to-day the pupil from the very beginning is put through exercises wherein he talks for the purpose solely of perfecting his ability in talking. The aim in this work in some schools, though not in all, is to encourage the learner to express himself with reference to situations and experiences which are closely related to those presented in the home, on the playground, and on the street. A common method, typical in fundamental principle of other methods, is to choose a picture representing some interesting and familiar scene or event, either actual or in representation, and have conversation respecting it. Again, pupils are read or told stories, and they are required to reproduce them "in their own words." The concern of both teacher and pupil in this activity is mainly with linguistic forms. The attention of the pupil is not kept primarily on the picture he is describing, or story he is telling, or circumstance he is relating, but on the language he is using. However, there are some teachers who proceed on the doctrine that if a child will only talk about a topic — any topic — he will grow in linguistic power; the vocabulary and idioms of the original

will work themselves into his expression, even without his being aware of what is happening.

While granting the educational value of the general principle in question, still it may be carried to an extreme. In previous chapters it has been shown that the young child mechanically appropriates much of what he gains linguistically, and older children will readily assimilate the striking terms and phrases occurring in the speech of their associates; but much of what is characteristic in construction and style of what we call the best literature will be missed unless attention be drawn specially thereto. I read "Robin Hood," as an instance, to three children, from five to ten. They all catch at a few such terms as "landlubber" and such phrases as "Ho, my merry men!" and these get incorporated into their spontaneous talk, really becoming a part of their linguistic outfit, especially if I repeat the story a half-dozen times at intervals of six months or so, and if the use of these terms and phrases produces happy results in the responses of the people in the environment. But the youngest child appropriates just a few of these impressive expressions (we will later try to discover what about a term or phrase makes it impressive to children in different stages of development), while the oldest seizes upon some of the hero's more complicated expressions. And yet, if I do not direct their attention to special constructions and the more subtle phrases, their reproductions are quite largely in terms

of their habitual forms. However, if I urge them to recall just how Robin expressed himself when he was asked this or that question, or was placed in this or that situation, I can get them, particularly the oldest, to reproduce a considerable part of the original, and without its seeming formal or remote to them. Now I go on and "make up" a story with some of the terms and expressions of "Robin Hood" in it, and ask the children to tell it back, and I get more or less spontaneously many of the expressions of the original. I continue, and have the children tell me a story "like 'Robin Hood,'" and now they take the initiative in the use of the expressions in question. If in the progress of the story I ask, when certain expressions are given, "How would Robin say it?" and "Which do you like better?" I arouse a sense of one method of statement being more desirable than another.

Study and
use a uni-
tary pro-
cess.

Now, I could if I chose make the pupil's awareness of special forms so acute that he would be hindered in using them as means of expressing his own thought; he could only *think* about them. It is a subtle matter to determine just how far to carry this explicit study of modes of expression; but for our present purpose we may state this general principle, — that the pupil should study particular terms and phrases only that he may use them in helping himself in making his own expression effective; and the opportunity for and need of using them must follow immediately

upon his study of them. Thus, explicit study and use must be but phases of a unitary process in all effective linguistic training.

From what has been said it will be apparent that the command, so often heard in the schoolroom, "Tell it in your own words," has its defects as well as its merits. If it is carried out strictly, the pupil will not gain appreciably from his study of literature or anything else. Growth linguistically requires constant additions to the vocabulary from every subject studied, and every good book read; and there must be continual enlargement of the stock of linguistic moulds in which thought may be cast. But if the pupil is urged too strenuously to "use his own words," he gradually settles into very narrow linguistic grooves from which it becomes ever increasingly difficult to escape. The linguistic equipment of the pupil should be in a plastic state. There must be no arrest on primitive forms, except in respect to the very simplest constructions.

But there is virtue in the command, "Tell it in your own words," if it be construed wisely. It should mean that the pupil, while making use of some of the author's terms and idioms, perhaps, yet employs them in a combination of his own making, which shows that he has used them intelligently, and that he can take them out of their original setting and employ them appropriately. And this is just what will prove of particular service to him. If he imitates the model, not only in respect to terms and

The merits
and defects
of "Tell
it in your
own words."

phrases, but also in respect to constructive patterns, he can gain little if any power in the use in new settings of any of his model's expressions. It is much as if he learned $7 \times 9 = 63$ always in a series, beginning with $7 \times 1 = 7$, and running on down. In order to determine 7×9 at any time, he must start at the beginning and go through the whole series. So the doctrine is that the learner must always gain something from his models, but he must work over what he gets into the warp and woof of his own expression. He must neither copy slavishly nor yet "use his own words" exclusively.

The principle in question has validity at every point in linguistic evolution, though here, as elsewhere, matters become more complicated as development proceeds. It normally becomes ever more difficult with development to trace the influence of any particular model upon the forms of expression of the individual, though in some cases it is always quite apparent. Literary men, as Howells, for instance, tell us that every new author they read during a certain period in their literary history had an immediate and marked influence upon their expression, oral as well as written. But it is generally true, it seems, that as the range of one's linguistic ability is extended, as the body of one's expressive forms and materials increases, it constantly gains in solidarity, so that new models meet with ever-increasing resistance in their attempts to establish themselves in the expression of the learner. Or

The influence of models generally declines after adolescence.

perhaps it is that the individual's needs are supplied ever more fully by his increasing linguistic outfit. This statement must be made with considerable reservation, for there are certainly exceptions to it. Mature men of literary and oratorical tendencies and ambitions are often en-hungered for new and better modes of revealing themselves; they crave greater amplitude and precision and delicacy in their expression, and they seize eagerly upon everything that promises to aid them. Such persons are always *in need*; they are actively seeking for the means of becoming more fluent, and so they gain some profit from all their experience with things linguistic. At the same time, while they may appreciate the worth of new terms and phrases and linguistic moulds, still these may only with great difficulty become embodied in their own expression, so tenacious are early formed linguistic habits.

It is the practice in many localities in our day to abandon all special exercises in the high school for developing fluency in oral expression. So it happens that the only training in this respect the pupil has is gained incidentally in connection with his work in his regular studies. It hardly requires argument to show that under such conditions unusual pains should be taken to encourage high-school pupils to express themselves freely and to the point in every recitation. Unhappily, though, formalism is more prominent in the high school to-day than it is in the elementary school, speaking generally. The writer has

Linguistic
training in
the second-
ary school.

followed the course of certain students who manifested much freedom in expression in the elementary school, but who are becoming reticent in the high school. Doubtless this reticence is due in some measure to the on-coming of adolescent self-consciousness, which induces inhibition; but it is due in largest measure probably to the defective methods of the high school. They often do not, in the course of the entire school day, utter five consecutive sentences on any topic, and what they say seems more or less formal, because the tone of the school is formal and mechanical. University instructors complain because the secondary school sends to them pupils dumb of tongue as well as of pen. They sit in their class rooms speechless, and often one can get little from them more elaborate than "yes," or "no," or "I am not prepared." To stand on their feet and tell what they know connectedly on any topic is difficult if not impossible for the majority of them, a defect which is always aggravated by static methods of teaching.

In this connection it may be remarked that in the high school and university the individual will gain more in expressive ability from debating societies and the like, if not conducted in too formal a way, than he can gain from any amount of purely theoretical class-room instruction. If the class room and the debating and similar work could go hand in hand, we should realize the ideal at this stage of development, for the explicit study would supply models

or forms which, from the experience in the society, would be felt to be of genuine worth. When the student reaches this point, he is ready to appropriate whatever he can get, and to speedily incorporate it into his spontaneous as well as his deliberate expression.

5. Effect of Reading upon Efficiency

The main point to be noted about reading in reference to our present inquiry is that it is the means of making the pupil focally conscious of linguistic details which, through one modality,—audition,—he has come to react upon in generalized form and in an automatic manner. When he hears his companion say, “I have a knife,” the words as separate elements are not at all focal in consciousness; they are apprehended and reacted upon as a unity, and the situation which they describe occupies the attention almost if not quite exclusively. This principle has been worked out elsewhere, and need not be dwelt upon here. But when the pupil begins to read the sentence, the elements, as mere word-ideas, monopolize his attention, and the situation they describe is not focal in consciousness, as would be the case in oral communication. With development, however, symbol and meaning will change positions in consciousness; the latter will be brought forward, and the former will become gradually subordinated.

Reading brings verbal elements to focal attention.

At the outset the novice is engaged primarily with the

elementary units of the sentence as independent things, and he is not at all aware of their grammatical relationship. When he comes to such an expression as "the horse runs," he endeavors to master it so that he may in the future pronounce it when he sees it. His attention is concerned with the visual and vocal characteristics of the words as separate one from the other. But as he gains familiarity with the individual words so that he can pronounce them, not as wholly isolated but as related to one another in sequence, he begins to feel syntactical relations, or at least to establish them in his vocal processes. He does not become explicitly aware of the inflection of the verb in agreement with the subject, and yet vocally he renders it correctly. If this process be repeated many times, it tends, of course, to become habitual. In other words, the correct construction becomes fixed in execution, though not in definition or reflection; but this observance of the principle of agreement in vocal rendering will later be made the basis for apprehension of the principle in reflection.

It soon
becomes
more com-
plex than
speech.

This is not to say that every sentence the child reads becomes established in vocal habit as correct grammatical construction and effective expression, which will exert an influence upon his spontaneous linguistic activity. There is likely to be, in the reading of the average eight-year-old child, say, a considerable proportion of the constructions which will be encountered so rarely that they

cannot be established in the speech of the novice in the manner indicated. Then, again, the sentences in the beginning of reading are usually so very elementary that they present only the simplest substantive and predicative constructions. Modifiers, relative pronouns, phrases, and clauses are excluded *in toto*, so that his reading gives him practically no experience with their correct and effective use. A six-year-old child is far more advanced in his oral than in his visual linguistic development. As he develops, however, he encounters in his reading all varieties of constructions, the simpler forms first, and passing constantly to those more involved. If he goes on through the elementary school, he will have experience with some of the best writing in our language, such as is found in the less intricate works of Milton, Scott, Shakespeare, Wordsworth, Tennyson, Lowell, Holmes, Webster, and many others. If he continues his reading of English literature through the high school, he will be brought in contact with specimens of the most complicated constructions found in our literature.

It is probable that the pupil's reading in his later years does not exert such an influence upon his expression as it does during the middle period of his development, when his own expression and that of the authors he reads are close together in respect alike to content and to complexity of construction. H., at ten, is reading authors — Scott, for instance — whose constructions are too complicated

for use in the spontaneous activities of her daily life. At six her every-day expression was considerably more involved than that presented in her reading. At eight, the two were probably about on a par; but they did not remain abreast of one another very long. Both have grown constantly more complicated, but the reading has rapidly outstripped oral expression, and it is likely to get so far ahead of it by the age of twelve or thirteen that the two will have little in common.

I have observed carefully the effect upon the spontaneous expression of several children of introducing them to authors like Dickens. I am confident there is some influence, but it is not as great as current theory leads one to expect. Certain peculiar phrases which catch the attention of children are copied, and deliberately made a part of the linguistic material of daily intercourse; but the main body of customary forms of expression are not affected. The most potent influence is found in the pupil becoming impressed with some of the author's more striking characters and describing them, in part by repeating their expressions. It may be noted in this connection that the child sometimes borrows phrases from his reading for the mere novelty of using them, on special occasions and for special purposes. He may not employ them at all as means of expression in the true sense when he is trying to communicate some experience to his companions.

A child of eight who is reading "Robinson Crusoe,"

"Alice in Wonderland," "Swiss Family Robinson," and the "Iliad" and "Odyssey" will show in different degrees the influence of each of these books. "Alice in Wonderland" will be most potent, "Robinson Crusoe" next, and the "Iliad" and "Odyssey" will have practically no influence. "Hiawatha" will have more influence than the Greek myths. The English Folk Stories, some of them, such as "Jack and the Beanstalk," will exert a considerable influence. So one might go through with the whole list of children's books, and he would find that those dealing with situations most remote from the daily life and special interests of the reader exert the least influence upon his expression.

The conditions under which reading will influence oral expression.

The principle, like all others concerning linguistic development, is seen operating in a complex way in mature life. A literary man will show the influence of his reading of Shakespeare and Milton and Tennyson in his own expression, but this is not likely to be so true of the psychologist or economist or educationist. On the other hand, if an intelligent educationist reads Spencer's "Education," for example, the influence will be apparent, except perhaps in the case of one, say the average teacher of fifty years or more, whose linguistic forms have become thoroughly ossified. When one gains the thought of his author, with whom he sympathizes, which means, for one thing, that they are both on about the same plane of development with respect to the particular matter in

question, he gains also, in some measure, the forms of expression in which the thought is presented. This is not to say that he tries deliberately to copy the forms of expression, or is even aware that he is doing so; but when new thought is gained, not having found complete expression in definite forms of one's own, the line of least resistance is through the expression of the author. Really what seems to happen is that the author's modes of expression tend to establish channels of ready outlet for kindred ideas in the reader, in the event that these ideas are in some measure novel.

Summary.

1. Linguistic efficiency is a special, not a general, matter. It is rare that any one is efficient in every situation in which he may be placed. One may be brilliant in one linguistic situation, but very commonplace in a different one.

2. Profound thought does not insure readiness and efficiency in oral expression; indeed the opposite is often true.

3. To a certain extent, probably, efficiency in oral expression is due to native endowment; but too much emphasis should not be placed on this factor. The really essential factor in the development of efficiency is the necessity for effective expression in group activities.

4. The special people with whom a child associates largely determine his linguistic development. The child who has intimate, give-and-take linguistic experience with the largest number of people of varied temperament, training, and interests will, other things being equal, become more efficient linguistically than a child who is narrowly limited in his social intercourse.

5. The typical school, with its excessively large number of pupils under one teacher, leading to formal methods of teaching, does not ordinarily exert a very beneficial influence upon a pupil's linguistic development.

6. When the various studies in the school are presented in a way which makes them remote from the spontaneous life of the pupil, they will have but slight influence upon his linguistic development. But every subject taught in a vital way will contribute to the pupil's vocabulary and general expressive power.

7. If the pupil is to grow linguistically in the school, he must be frequently placed in linguistic situations much like those in his extra-school environment.

8. The topical method of recitation affords opportunity to give the pupil valuable linguistic training. Mere question-and-answer methods are likely to arrest the individual's development.

9. The doctrine that if one keeps only approved linguistic forms before the pupil he will in time assimilate them subconsciously is only partially true. A pupil will not detect some of the characteristic qualities of, say, Scott's or Tennyson's style unless his attention is turned to them specially by the teacher.

10. A child will profit most expressionally by the stories he hears or reads when he is required to put himself in the place of the characters, and personate them, linguistically and otherwise.

11. The doctrine that a pupil should be made to reproduce "in his own words" stories told or read to him may be carried so far that he will not gain anything of value from many of the models that should play an important part in his linguistic development.

12. After the adolescent period, the influence of models probably begins to decline, except in the case of persons who feel an active literary need, and are searching for terms and phrases and forms to aid themselves.

13. In high schools linguistic training is quite defective as a rule. Pupils often come out of the high school unable to express themselves freely or connectedly on any topic. Debating and literary societies, if not conducted in too formal a manner, will do more for the high school pupil's linguistic growth than the learning of rules in the schoolroom.

14. In his reading the child becomes focally aware of verbal elements to which he gives little if any attention as they are presented in oral form.

15. In the beginning of reading the linguistic situations are much simpler than those which the pupil is accustomed to in oral communication, and the latter is not influenced by the former, except in respect to impressive words or phrases as they occur in folk tales or fables or similar reading.

16. It is not long before the constructions in the reading become as complex as those occurring in oral expression, and are of much the same general character. At this point reading exerts marked influence on speech, provided the reading relates to the more common experiences of daily life. Before the adolescent period is reached the pupil's reading will have become considerably more complex linguistically than his speech, and then the latter will be little influenced by the former.

17. Reading will have an influence upon oral expression just in the measure that it comes close to the interests and abilities of the pupil.

CHAPTER XI

PROCESSES IN GRAPHIC EXPRESSION

1. The Interdependence of the Several Linguistic Modes

IN much of the current literature dealing with the teaching of English in the earlier stages, one may find the statement that effective writing depends directly upon effective speech. Teachers are exhorted to give attention at the outset mainly to oral expression; for if they get their pupils to talk correctly and effectually, written expression will take care of itself largely; though it is not claimed that the latter can be ignored altogether.¹ The psychology upon which this conception is based runs something like this: talking and writing are but aspects of a unitary process of expression, and the individual can reveal his ideas readily by either route when one is learned; if he has mastered one system of forms, he can at will translate them into the other system. Expressive ability is, according to this view, a general thing; gained in one mode, it can be employed in all modes.

The relation of writing to speech.

It seems probable that this doctrine takes no account of several important factors which make expression by way

¹ Cf., for instance, Hall, "Adolescence," Vol. II, pp. 449-495.

of the pen quite different in some respects from oral expression, and which interfere with the ready transference of skill from one mode to the other. To begin with, in the course of development, oral expression becomes, as we have seen, a more or less automatic process for all oft-repeated verbal combinations. When I ask S., at four, to analyze some of his complicated sentences, telling me each word used and its sequential relations to the whole series, he generally makes poor work of it on the first trial. However, I can help him by causing him to repeat his sentences slowly, stopping first upon one element and then upon another, which tends to bring each word into the focus of consciousness momentarily. But the point is that, even by the fourth year, many sentences in oral expression have become so completely consolidated that the component elements have lost their individuality. It is doubtful if these elements ever have distinct individuality until they are later by deliberate intent dissected out from the wholes of which they have become organic parts. But while the sentence is being constructed in the early years, there is greater likelihood of separate terms occupying a place in the attention than when the sentence is built and used freely without modification in the linguistic commerce of daily life. Theoretically, a child might be vividly conscious of verbal elements during the constructive period, and yet his attention would be gradually withdrawn from them according as the building progressed, so that when he

reached the age when "composition" should be begun, he would have made most of his oral language automatic.

We may give our attention now to the question, Can the child utilize in a graphic way skill developed in the construction of the sentence vocally? To come to the point at once, observation and experiment show that vocal series in expression may be well developed, while the corresponding graphic series may remain wholly unformed; in witness whereof, witness the vocal and graphic abilities of a pupil in the first or second grade, say. When H. was eight, to cite an instance illustrating a special phrase of the principle, she could write many individual words readily, and she could reproduce dictated sentences without trouble. But when I would request her to write originally on any simple subject that she could talk upon with facility, she would be confused and helpless. "What will I say?" would without fail be her first question. She desired me to dictate her expressions; for she appeared unable to frame sentences originally and write them. Probably her confusion was due to her inability to express readily in a graphic way the elements of her ideas as they were formed. Ready expression doubtless aids in developing ideas. When linguistic forms can be employed with facility, the central processes are likely to occur readily and orderly; but if the former is impossible, the latter will probably be disorganized. "I cannot think what to say," H. would declare, though if I ask her to *tell* me she rushes ahead

Does skill
in one mode
insure skill
in a differ-
ent one?

without the slightest difficulty. Why is she unable to think of anything to say? Is it not because her attention is devoted wholly to the unfamiliar mode of expression? If the moment an idea appeared in consciousness she could express it graphically in an automatic manner, she could keep the content to be expressed constantly in the focus of consciousness; and then she would "think." But as it is, the images that may come into the focus of attention will not remain there, nor will they appear in any organized manner, because she has no definitely formed patterns of expression in the new mode.

The first
step in
gaining
written
expression.

In teaching H. to express herself in writing, I ask her to *tell* me something about the experience she wishes to describe. I thus take her attention from the source of her troubles, and concentrate it on the experience. When she gives me a sentence or two, I ask her to repeat slowly, and then to write. In this manner she gets the sentence in hand, and the slow repetition causes the individual words to stand out, though they are held in a certain sequence; and now she can write. By this means she translates her sentence into the imagery which stimulates the appropriate motor routes, into which it runs when I dictate the sentence to her. At the outset of learning to write, the motor processes were associated with, or were a reaction upon, auditory words. I speak the word "cat"; then with my aid the child works it out graphically. In this way the word becomes established in an audito-graphic series. If this

sort of experience be repeated, it results that the auditory form of the word must always be present before the appropriate graphic processes can be set off. This is doubtless the case also when the child begins his writing by copying words from the blackboard or copy-book. He first translates them into the auditory form; and while probably the latter form degenerates with development, still it continues to be more or less essential to writing, even in maturity. Destroy absolutely the ability to convert verbal forms into auditory elements, and the power to write them will suffer or be lost altogether. The point I wish to impress here is that after the child discovers, in the way sketched above, that he can equate certain vocal and graphic motor processes, he can then employ the elements thereof in new combinations. If x of a vocal series equals y of a graphic series in simple expressions, then, when later, in more complicated situations, the child wishes to express x graphically, he can produce its equivalent in graphic form. In the course of normal development the process becomes ever more facile, and distinct imagery therein gradually disappears, and in some cases it may go altogether. This in principle seems to be the natural history of all transmuting of vocal into graphic series.

Graphic expression presents exceptional difficulties to the novice, mainly because of its relative slowness and clumsiness. Even at the beginning of reading, the eye grasps

Graphic expression is comparatively slow and clumsy.

comparatively readily the prominent characteristics of individual words and phrases; and an eighteen-months-old child will utter a long string of vocal combinations with ease and rapidity. But when it comes to the graphic production of words and phrases, the hand lags far behind the eye and the tongue. Every detail of verbal form has now to be worked out explicitly, which is not true to the same extent of either speech or reading. Of course, with increasing experience one is likely to acquire such facility in written expression that details of familiar forms fuse into larger wholes, and are executed without explicit attention being given to each; but skill in this respect probably never develops as far as it does in reading or speaking.

So the hand retards the flow of ideas, and this results in confusion and inhibition of expression, no matter how simple may be the theme of the novice. Let an adult attempt to express himself upon any familiar subject in a foreign tongue of which he is not thoroughly master, and he will show some such confusion and inhibition as does the child who is just beginning his work in composition. When observing a child trying to express a simple thought in writing, one is apt to feel that his vocal facility proves a hindrance to him. If he were less expert in auditory and vocal verbal imagery, he might succeed more easily in translating these series into graphic terms. Of course, the oftener one has translated any auditory and vocal series into writing, the easier and more facile the process will be-

come. In the beginning there are always false moves, and much hesitation, since any particular auditory or vocal imagery does not awaken definite graphic imagery. But as practice proceeds, the several elements in the right process are fused into a whole; and in the end the writer may have simply a general auditory or visual or vocal feeling of the word or sentence to be written, and this will find expression in appropriate graphic movements, without a single element of the process anywhere along the route being focal in consciousness, except it be that the thought processes of the writer occur in auditory, visual, or vocal verbal terms. But in this later case words or sentences are not distinctly audized or visualized or vocalized for the purpose of consciously carrying them into graphic forms; they are just the symbols in terms of which experience becomes organized. That is to say, when a well-trained man is writing, the verbal forms that pass through the focus of consciousness are the representatives of consolidated experiences, and they are brought into consciousness for the purpose of being arranged in orderly systems, and little if any attention is given to the *modus operandi* of expressing them. But it is altogether different with the novice; when he attempts to write, the verbal forms focal in consciousness are there for the purpose of directing the movements of the hand. Consequently, his attention is distracted from the content to be conveyed, with the result that his thought moves in a fragmentary, disjointed manner.

2. Simple *vs.* Complex Units in Graphic Expression

Structural
vs. psycho-
logical sim-
plicity.

Viewed from the structural standpoint, the simplest units in writing are the elements of the letters. In an older day, writing masters compelled their pupils to first learn these simple elements separately — the “right curve,” the “left curve,” etc. These having been acquired, they were then combined to form letters, beginning with the simplest, as *I*, and progressing gradually to the more complex, as *W*. Still later these letters were combined into words, beginning again with those structurally simple, as *it*, and moving steadily on to words more involved. Pupils were often drilled in this manner upon technique four or five years before they were required to employ it in the expression of content.¹ These teachers worked on the principle of proceeding from the simple to the complex, as they interpreted it; but they failed to take account of the difference between structural and psychological simplicity and complexity. Sometimes the two are the same; but this is not always the case, and is probably not so in the present instance. In writing, if emphasis be put upon the most elementary movements at the outset, and if these be perfected by themselves, comparative inefficiency is apt to be the result; since in the needs of daily life these elements are never employed separately, but always in the

¹ The writer found this method in vogue in some of the schools of Italy, France, and England in the year 1906.

relationships involved in words. If the unitary movement in writing be the execution of the elements of letters, it results that habits of this elementary character are formed, and freedom and facility in the execution of more complex forms are hindered. One who has learned to write "man," say, by first practising on the elements of the form *m*, and later combining these forms into the letter; then following in the same manner with *a* and *n*; and finally putting them together into this more complex word,—one who has proceeded in this manner always retains some feeling of the independence and separateness of these various elements. Their separate execution continues to be more or less insistent in spite of what he may do later to obliterate their individuality. But the child who begins at once writing the whole word does not acquire the sense of separateness of the structural elements. The word as a whole is regarded as a unity, to be executed as a unity. In execution there is one motor act required, not fourteen or fifteen independent acts following one another. Now, economy and efficiency alike demand that as large and complex unities as possible be mastered as wholes from the start. As the pupil proceeds, he must grasp larger and larger units; his attention must take them in as wholes, and he must be encouraged to express them as wholes, precisely as he learns to do in speech. In the latter mode of expression the child's survival, looking at the thing in a broad way, depends upon his grasping phrases, clauses, and even

sentences as wholes, and expressing them as such. The child who utters his speech in words, each having separate-ness and individuality, will drop behind in the linguistic race. The principle applies equally well to writing.

The prob-
lem of the
language
unities in
teaching
written
expression.

We are brought now into one of the most complex and difficult of all teaching situations. Economy and efficiency, we have seen, require that the pupil should begin with as large language unities as possible; but his immaturity, his limitations in the range of his attention, and his power of executing complex motor series make it imperative for him to start with relatively simple combinations. I have found it impossible in teaching a child of six, just beginning writing proper, to start with the word "elephant," without what appeared to be great waste. The gains of one day would be lost before the practice of the next day. The processes were too elaborate to be integrated into a unit by the child; and time after time he would be put through the movements, but without any effective organization—without the formation of a motor series correlated with the visual series got from looking at the word, and with the auditory series gained from hearing the word pronounced. The principle seems to be universal in its application to motor acts. When H. began her instrumental music, it was necessary for her to commence with very simple combinations, though what is demanded for efficiency in musical performance is the execution of complex combinations as unities. But an

attempt to get H. to start off at once with "The Jolly Farmer," as an instance, resulted in her making no progress whatever. Not having mastered the more elementary unities, she could not grasp the larger ones. This means that there must be a certain degree of familiarity with elements before complexes can be economically attacked. The principle appears to hold for the acquisition of any art. Bryan and Harter seem to have shown it to be true in respect to the learning of the telegraphic language. For a number of years the author has made observations on persons learning golf, and in no case noted has much skill been attained without some special attention having been given early to the stance, the address, the swing, etc., as elementary processes.

Confining our discussion of the principle in question to its bearing upon the mastery of writing, we need to inquire now whether the novice must master many words separately, so that he can write them automatically before he employs them as parts merely of a larger whole, the sentence. Any one who has experimented with children in learning to spell must have observed that a pupil may write spelling lists well, but when he comes to use the same words in an essay he may often go astray on them; which is doubtless due to the fact that the speller's attention is to a degree distracted by the complex situation presented in having to write a series of words very dissimilar in content, and in visual and auditory form; and these must all be

arranged in a certain sequence, and must follow the principles of agreement. Moreover, this combination of words must express some idea relevant to a given subject or situation. Now, words that have not often been used effectively in complex situations like this cannot be so used on occasion. Without question the novice profits somewhat by his drill upon words in isolation; but a considerable amount of the facility gained in this way, if it is carried to automatization, is lost when he is called upon to employ words in the ordinary combinations required for effective expression.

How, then, can we harmonize these principles? Experience and theory agree that the pupil must first *get the swing* of simple words in isolation. The longer he delays beginning his writing, the more complex forms he can undertake at the outset; for, even though he is not practised in writing during the early years, he is nevertheless continually gaining in the power of executing relatively complex motor series. It is important, however, that the novice should not stay long enough upon elementary processes to make them automatic. Before this point is reached he must be required to use them in larger unities, as they will be employed in the affairs of life. Training for facility in elements must be secured mainly through the use of these elements in the wholes in which they normally function. As the pupil develops, and the elementary units become more and more automatic in the wholes of which

they are the elements, the necessity for practising upon them separately will gradually cease. The attention must then be kept upon the larger units, — the sentence and the paragraph.

3. Punctuation

There is one characteristic of written expression which is largely or wholly lacking in oral expression, at least so far as the learner is explicitly aware of it. He is not conscious of anything like punctuation in his speech. V., at eight, says to me, "I think I will write 'Hiawatha was an Indian boy,' " taking the sentence from his reading; and he goes on word by word until the end; but there is nothing in the oral form that corresponds with the period at the close, which I show him in his book. I may ask him if he does not "let his voice fall" after *boy*, but this does not contribute at all to his enlightenment. I may ask him again if he has not "given me a complete thought"; but if he has he is not aware of it, and it is not easy to make him understand what I mean. The oral expression of the sentence is an automatic process with him, and he cannot readily make it a matter of observation and reflection. Besides, the child of seven cannot realize that his thought is composed of units, each expressed by a sentence. Of course, he can be trained to say that "a sentence is the expression of a thought," and that "a period should be used at the completion of a thought"; but this may be wholly mechanical with him. One may see pupils very glib

The attitude of the novice toward punctuation.

with their definitions who rarely, on their own initiative, use a mark of punctuation correctly.

Punctuation in the beginning must be a matter either of mere definition or deliberate imitation. When the pupil copies sentences from his book or the board, he notes the period and he copies it too; but why he does not and cannot understand in its grammatical foundations. If you dictate a sentence to a beginner, you will find that you will need to remind him over and over again of the period, even though he has copied many sentences in which he has always used it. The *feeling of the need of punctuation* comes only after long habituation; though when the learner reaches the point where he can analyze his thought and discern the relations of its elements, he may come to see the value of some means of indicating in his writing the divisions in his thinking. Even with all their special training in school, children of nine or ten will often show when they read aloud that they are not appreciating in any true sense, or regarding, the punctuation marks; and when they write their little essays or letters spontaneously, they must be constantly exhorted to be careful about their commas and periods and question marks, though they may be accurate in everything else.¹

¹ Lewis, in discussing punctuation, says that "the reader's train of thought goes straight ahead from word to word until the punctuation mark warns it that there is danger of misunderstanding if it does not pause. The mark shows that the words which precede it are to be understood mentally as a group, and to be read orally as a group. If the

Children of nine or ten years who have had considerable experience in writing letters, and in reproducing stories, nature lessons, and the like, begin to show appreciation of the use of the period and the interrogation mark, and, to a much less extent, of the comma and the exclamation point. Other forms of grammatical and rhetorical punctuation are not appreciated, or used intelligently at this age. At this period the child's written expressions are all cast in simple moulds, — subject and predicate, with few if any modifiers. One can follow a pupil as he comes to feel the need of these marks, as a matter of developing habit, until finally they are employed automatically; and of course they may be, as they often are, employed with explicit consciousness. So he grows on, ever increasing in power in the integration of experience, and requiring more complex forms of expression for the portrayal thereof, and as a consequence he will seize upon more and more in-

The development of a feeling for punctuation.

thought is kept in mind that a punctuation mark is a sort of danger signal, many of the difficulties of the subject vanish. 'Henry rose, and I with him laughed at the story we had heard.' If that comma be omitted between *rose* and *and*, what happens?" A "First Book in Writing English," pp. 23-24.

The comment to be made on this is that it is quite late in the child's linguistic development before he appreciates the danger of that sort of misunderstanding that may be avoided by taking account of the punctuation marks. The novice gets the larger picture portrayed in his reading, and his appreciation does not possess those subtleties that require the use of marks to properly define. Of course, he will come to this in time, but it is useless, if not worse, to treat him as though he stood in any conscious need of punctuation as the adult does.

volved sentential models given him by his teacher, or presented in his books. H. and her companions, all about the age of ten, are conducting a "magazine" in which appear "essays," "poems," etc., from each member. They are just now in the frame of mind to profit best by suggestions respecting the technique of composition, and as a matter of fact they solicit aid from any well-disposed persons they know who can help them to accomplish what they feel in an obscure way, but cannot quite realize. It is wasteful, if indeed it is at all possible, to accumulate skill or efficiency in this respect against some remote time of need. The pupil must first feel the limitations in his present equipment before he can appropriate readily and effectively the means of extending it. So it is bad policy to give pupils in the seventh and eighth grades, and even in the high school, models in literary expression taken from the more involved writings of Milton, Shakespeare, Bacon, Tennyson, Addison, and the like. The formal grammatical and rhetorical text-books are full of complicated but excellent examples of expression, judged from the standpoint of the appreciative adult, culled from the world's great literature, the aim being to illustrate every quality of strength and grace and efficiency in style by the best instances to be found anywhere. But there is an error here which runs through much of our educational theory: what is logically "best" in adult appreciation is interpreted to be most suitable for the child at every stage in his development.

We hear this same contention made by artists, musicians, and literati. This fallacy is very apt to be committed by an adult who is unfamiliar with the processes of mental evolution, and who merely speculates regarding materials and methods of education for those in an immature stage of development. The point to be impressed is that those materials and methods alone are "best" for any stage of development that are most completely adapted to the interests, abilities, and *needs* of that particular stage.

1. The processes in graphic expression at the outset are quite distinct from those in oral expression, although many teachers maintain that if a pupil can talk readily and effectively, he can compose in the same way. **Summary.**

2. But skill in one mode of expression cannot be transferred to another mode, at least without loss. Observation and experiment both indicate that one may be very fluent and capable in speech, but dull and ineffective in composition; and the converse is sometimes, though not commonly, true.

3. However, the development of skill in graphic must be based upon oral expression, which is always the earlier mode. In the graphic process, thought must first be verbalized in auditory forms, then probably in vocal and visual forms, and then in graphic forms. Upon continual repetition, with emphasis upon graphic execution, the auditory, vocal, and visual factors come to play a less and less important part, until they may disappear entirely from the focus of consciousness, and function only marginally.

4. Graphic expression is unusually difficult for the novice, for one reason because it is comparatively slow and clumsy, so that he avoids it whenever possible.

5. Teachers generally maintain that the child must proceed from the simple to the complex in mastering graphic expression; but there is a difference between *structural* and *psychological* simplicity. In composition, if the novice be kept too long at the outset upon the most elementary factors, his time and energy will be wasted. Besides, he will not acquire writing so that it can be employed most effectively.

6. Economy and efficiency require that in teaching graphic expression the pupil work always with the largest unities he can grasp and execute as unities. He must strive to acquire elementary unities as functioning in more complex ones, not as isolated and independent. He must not drill upon the lower unities until they become automatic, but only until he gains such familiarity with them that he can use them in the larger unities.

7. The novice comes to punctuation without any experience which will enable him to appreciate its function in the expression of his thought. He must therefore learn it *de novo*.

8. From the standpoint of the learner, punctuation is wholly arbitrary, and he tends to learn it mechanically. In time, though, he can be made to see its service in expression, and he can then make progress in employing it effectively. But he must not be asked to learn punctuation in complex sentences quite beyond his own needs in expression.

CHAPTER XII

DEVELOPMENT OF EFFICIENCY IN COMPOSITION

I. Aesthetic Function of Language

OUR discussion in the preceding chapter dealt mainly, though not wholly, with the developmental history of accuracy and fluency in the child's expression; and while it is recognized that these are essential elements in efficiency, yet it is also apparent that there are other characteristics which are equally essential. A present-day orator may be as accurate grammatically and as ready of utterance as Webster was in his greatest oration, and still he may be far less effective; and the deficiency may be due to differences in "style" merely. A man may write readily and accurately, and yet he may not give his readers pleasure or move them to action. These are simple facts which in principle were considered in discussing oral expression, and we need not dwell upon them longer here.

The Spencerian theory respecting style.

Every one is probably familiar with Spencer's view, which has been generally adopted in our own day, — that efficiency in style is determined by the ease with which the writer inserts his ideas into the minds of his readers.¹

¹ "To so present ideas that they may be apprehended with the least possible mental effort is the desideratum towards which most of the rules

Economy of the reader's attention marks the highest quality of style; the choice of words and phrases and their arrangement in the sentence should all depend upon this supreme aim. Now, while this principle is doubtless of great value, it still does not account for all the facts. It ignores the interest which people have in the æsthetic quality of language, and also the possibility of arousing and directing emotion through linguistic melody, rhythm, and force. Spencer's theory assumes that the only function of language is the conveyance of thought;¹ but this

above quoted point. When we condemn writing that is wordy or confused or intricate — when we praise this style as easy, and blame that as fatiguing, we consciously or unconsciously assume this desideratum as our standard of judgment. Regarding language as an apparatus of symbols for the conveyance of thought, we may say that, as in a mechanical apparatus, the more simple and the better arranged its parts, the greater will be the effect produced. In either case, whatever force is absorbed by the machine is deducted from the result. A reader or listener has at each moment but a limited amount of mental power available. To recognize and interpret the symbols presented to him requires part of this power; to arrange and combine the images suggested requires a further part; and only that part which remains can be used for realizing the thought conveyed. Hence, the more time and attention it takes to receive and understand each sentence, the less time and attention can be given to the contained idea; and the less vividly will that idea be conceived." Spencer, "Philosophy of Style," p. 11.

¹ Spencer seems to think that words, in order to be reacted upon, must always awaken images, or thoughts, perhaps, which is clearly erroneous. Witness the following: —

"This superiority of specific expressions is clearly due to a saving of the effort required to translate words into thoughts. As we do not think in generals but in particulars — as, whenever any class of things is referred to,

is obviously only a partial view. However, if we interpret Spencer as Matthews¹ does, this objection disappears in part. Matthews goes on to say that "what such a writer has for his supreme object is to convey his thought into the minds of his readers with the least friction; and he tries therefore to avoid all awkwardness of phrase, all incongruous words, all locutions likely to arouse resistance, since any one of these things will inevitably lessen the amount of attention which this reader or that will then have available for the reception of the writer's message. This is what Herbert Spencer has called the principle of Economy of Attention; and a firm grasp of this principle is a condition precedent to a clear understanding of the literary art."

In this passage, taken by itself, Matthews does not attach sufficient importance to what is generally understood by the æsthetic function of language. As early as two years of age children delight in linguistic play in which the interchange of thought is of secondary importance. In the Mother Goose jingles and the nursery classics, for instance, the child gets his chief pleasure from we represent it to ourselves by calling to mind individual members of it; it follows that when an abstract word is used, the hearer or reader has to choose from his stock of images one or more, by which he may figure to himself the genus mentioned. In doing this some delay must arise, some force be expended; and if, by employing a specific term, an appropriate image can be at once suggested, an economy is achieved, and a more vivid impression produced." "Philosophy of Style," p. 15.

It under-
values the
æsthetic
function of
language.

¹ Chap. on "Parts of Speech," in "Essays on English," p. 228.

mere verbal effects, as in "Tom, Tom, the Piper's Son"; "Hey, diddle, diddle;" "1, 2, 3, 4, 5, I caught a hare alive;" "Cross-Patch;" "Dancy-diddlety-poppity-pin;" "Higgledy Piggledy, my black hen;" "This is the house that Jack built;" "The Old Woman and her Pig;" "Ding Dong, Ding Dong;" "A dillar, a dollar;" and so on *ad libitum*. Let any interested person who has not made the experiment test children from three to six or seven with the collection of rhymes in Andrew Lang's book, for example, and he will soon find that if he eliminates the rhythm and peculiar verbal qualities from the stories, most of them lose their charm entirely.

In the spontaneous life of children from four onwards there is a good deal of experimentation with linguistic materials in the effort to produce mere rhythmical combinations without sense. Interest in nonsense rhymes awakens early, and lasts until adolescence, at any rate, and possibly it never disappears entirely. Children compete with each other in making these rhymes; and when they succeed, they manifest pleasure in their achievements. The love of poetry is, of course, based upon rhythm, which is fundamental in human nature. In the early years the rhythm alone will often give pleasure, though the words be meaningless; but in maturity we require that the poet shall, while gratifying our sense of rhythm, present us at the same time with his reflections respecting some of the problems of life. The point is that language is not,

or need not be, merely or mechanically symbolic. While performing this function it may also, if skilfully employed, arouse feelings which will energize the ideas that have been established, or which will be of value in themselves. Thus one may find pleasure in the verse of Tennyson or Shakespeare or Dante, even though the thought portrayed is of minor importance or beyond his comprehension.¹ In our adult reading we often come across passages or stanzas in which the thought presented is not of chief, or at least not of sole, importance; but on account of their rhythmical character they delight us, as, for instance, in Shakespeare's lines beginning "Hey Noni, no," or his "Under the Greenwood Tree," or "Blow, Blow, thou Winter Wind." Mahoney's "The Bells of Shandon" is a good illustration of the principle, as are also parts of "Gray's Elegy"; and many other illustrations will occur to the

¹ Spencer endeavors to extend his theory of economy to explain our enjoyment of poetry. "There is one peculiarity of poetry," he says, "conducting much to its effect — the peculiarity which is indeed usually thought its characteristic one — still remaining to be considered: we mean its rhythmical structure. This, improbable though it seems, will be found to come under the same generalization with the others. Like each of them, it is an idealization of the natural language of strong emotion, which is known to be more or less metrical if the emotion be not too violent; and like each of them, it is an economy of the reader's or hearer's attention. In the peculiar tone and manner we adopt in uttering versified language may be discerned its relationship to the feelings; and the pleasure which its measured movement gives us is ascribable to the comparative ease with which words metrically arranged can be recognized." (*Op. cit.*, p. 39.)

reader. The principle holds for prose, too. Aristotle's thought is generally conceded to be more profound than Plato's, but many readers prefer Plato because of the "melody," the "beauty," the "richness," the "purity," of his style. Plato's style, more perhaps than his thought,¹ has kept him fresh in the minds of men throughout the ages; and one might mention other writers since Grecian times who have survived for the same reason.

Expression
often se-
cures reac-
tion with-
out
imagery.

Those who treat of language as functioning always by awakening ideas go amiss in respect to its office in many of the ordinary situations of daily life. Often expressions have the happiest effect and achieve the end in view most economically, when, viewing the matter *ab extra*, we might suppose they would miss fire altogether, or else cause the listener or reader a great deal of unnecessary trouble in getting at their meanings. Such expressions sometimes arouse no ideas at all in the true sense. An instance of the principle is found in the use of slang. When a boy of four in response to an inquiry from his fellow as to whether he is going to the circus, says, "You bet your bottom dollar," he produces a very decided effect upon his listener, but without the awakening of any definite imagery. Such expressions short-circuit the process of stimulation-ideation-impulsion-reaction. All linguistic expression produces reaction ever more readily upon repetition; but

¹ The writer is well aware that some of his readers will differ with him in this opinion, but he is firmly convinced of the validity of it.

it is probable that explicit central processes are not needed at all for the execution of certain types of expression. They convey meaning and compel action without any necessity of tracing out their connections and ramifications. When one boy says to another, "If you do not keep away, I will knock you into the middle of next week," the one addressed cannot be said to have a full quota of images awakened by such an expression, and yet he is likely to react appropriately without delay. Again, when a man on the ball field calls to his companion to "freeze on to the ball," the latter does not ordinarily construct any images appropriate to these words; he simply *feels* their import, and his energy instantly passes into action, not ideation. Expressions of which the ones given are typical have the effect of instantly throwing the reader or listener into adjustive attitudes, in which the imagery awakened by the language is a negligible factor.

2. Figurative Expression

We have now to look into the question, How does the child acquire the ability to make his written expression go straight to the mark, whatever it may be, so that the effect he desires in his listener or reader may be produced most economically, speedily, and effectively? In the course of development the child begins to enrich his expression by calling upon one set of experiences to enliven

The development of a dynamic style.

a more or less novel situation which he is describing. A child of five will run in from the street at dark and say, "I saw a big thing outdoors that had claws as big *as a bear*, and eyes as bright *as the sun*, and he roared *like thunder*." So his noises are loud *as cannons*; his animals are as big *as mountains* and as fierce *as lions*; his men are as strong *as giants*, and so on. From four or five onward children are commonly quite active in detecting the more impressive likenesses between objects and experiences, and stating these similarities in figurative speech, simple and crude at first, but normally growing ever more subtle and effective. It is probable, though, that some children are much less ready than are others in this activity. S. and V. differ markedly in this respect. They illustrate types of minds which become more pronounced as maturity is approached, but which are easily distinguished in the early years. V. is what might be called the practical type in his thinking. He is not "reminiscent" or "imaginative." His attention is held closely by the particular object with which he is dealing, or which he is describing. His vision is limited more largely than S. to the thing in hand. His mind runs straight on in a horizontal direction, while S. will shoot off in any and every direction. In the latter case, experience is organized more on the method of association by similarity, and the items in the lists are active in combining in new ways upon relatively slight suggestion. But in the first type of mind association

by contiguity predominates; there is little cutting across from one series of experiences to others.

James¹ has described the figurative type of mind, and I may quote his words: "Instead of thoughts of concrete things patiently following one another in a beaten track of habitual suggestion, we have the most abrupt cross-cuts and transitions from one idea to another, the most rarefied abstractions and discriminations, the most unheard-of combinations of elements, the subtlest associations of analogy; in a word, we seem suddenly introduced into a seething caldron of ideas, where everything is fizzling and bobbing about in a state of bewildering activity, where partnerships can be joined or loosened in an instant, treadmill routine is unknown, and the unexpected seems the only law. According to the idiosyncrasy of the individual, the scintillations will have one character or another. They will be sallies of wit and humor; they will be flashes of poetry and eloquence; they will be constructions of dramatic fiction or of mechanical device, logical or philosophic abstractions, business projects, or scientific hypotheses, with trains of experimental consequences based thereon; they will be musical sounds, or images of plastic beauty or picturesqueness, or visions of moral harmony. But, whatever their differences may be, they will all agree in this, — that their genesis is sudden and, as it were, spontaneous. That is to say, the same premises

¹ "The Will to Believe," pp. 248-249.

would not, in the mind of another individual, have engendered just that conclusion; although when the conclusion is offered to the other individual, he may thoroughly accept and enjoy it and envy the brilliancy of him to whom it first occurred."

Factors
which influ-
ence figura-
tive activity.

The difference between children in the freedom and amplitude of figurative expression will be due also, it seems hardly necessary to say, to the breadth of their experiences, and to the way in which these have become organized through the influence of parent or teacher or story-book. For instance, here are two children who are studying the pussy willow in the spring. The first is limited in his thought about it to what is actually presented to his vision or his sense of touch. He looks at the bud, and tells its size, not in terms of other objects, but in terms of a standard of measurement, — inches, say. He feels of the bud and describes his impression, not in terms of the feeling of some other object, as velvet; but he says it is soft, agreeable, etc. If such words are "faded metaphors," as some philologists tell us, they have fully lost their metaphorical character so far as the child is concerned. They are essentially technical terms, aiming to express precisely the effect upon sense of a given experience. When he opens the bud, he tells what he finds, not in terms of a mother who cares for her young, but in strict conformity to observed fact. Science gives us descriptions of objects and phenomena in units of

measurement of some sort, while poetry gives us descriptions in terms of other objects and experiences in which the qualities to be impressed are strikingly exhibited. Byron hears "music breathing from the face of the Bride of Abydos, and her eye was in itself a soul." When the poet describes a cheek he says it is "like the dawn of day," or "all purple with the beam of youth," or he may liken it to any of a thousand familiar objects; but he avoids the technical term which is alone adapted to the needs of the scientist.

Now a child may be brought up under circumstances where he will hear everything described in terms of units of measurement. Another child may be reared under circumstances in which novel experiences are commonly described in terms of other familiar experiences, and in due course this will determine his habit of expression. He will get into the way of casting about for a figure whenever he has need to express himself effectively. He discovers what sorts of figures make the deepest impressions, and so carry his thought to its goal most effectively, and these tend normally as he develops to become most prominent in his discourse, whether oral or written.

Thus far we have touched only upon more or less unreflective figurative expression; but in time the pupil comes to the point where he gives this matter explicit attention. In school he is compelled, for the sake of practice, to construct expressions in which all the commendable qualities

The study
of figura-
tive expres-
sion.

of style are illustrated. Now, he may in this work be simply imitating in a mechanical way the models presented in his language or rhetoric texts, just as in penmanship he may imitate a copy without being prompted by the motive of expressing himself for serious ends. Many claim that this sort of experience has considerable influence in making the novice figuratively-minded, as it were. It is probable, however, that this influence is easily overrated. For a number of years manuscripts written on educational subjects by university juniors and seniors have passed through the writer's hands, and he has gained some data respecting the rhetorical training of the authors. With scarcely an exception they have had a course in formal rhetoric, and have learned definitions about figures of speech and qualities of style; and they have also tried to imitate models taken from the world's great literature, for the purpose of illustrating all the matters covered by the definitions and rules. But the results of this work have been uniformly disappointing. The style of these students has been quite generally wooden. Rarely does one find a really effective figure in this writing; and most of it is utterly barren. All this fine rhetorical learning has been stowed away out of reach now, or so it appears. And the complaint is general; throughout the land there is a rising tide of opinion against formal rhetoric. One does not have to look far for the source of the trouble. The experience which the pupil has in the school is not

related closely enough to his ordinary needs, so that the one will merge into and influence the other. The isolated expressions given in the books, and their remoteness from the ideas which the pupil is usually called upon to express, make them something apart from his every-day life. The medium of exchange between Shakespeare, Milton, Tennyson, Wordsworth, or Carlyle and their readers is very different from the medium of exchange between boys in the eighth grade, or even in the senior year in the high school.¹

The least profitable work of all in the development of linguistic efficiency is the mechanical learning of rules, with a few formal illustrations, taken largely from poetry, which does not lend itself to the portrayal of ordinary experience under the conditions of every-day life. We must have rules surely, but they should be worked out by the pupil himself from his actual experience. Or, if they must be learned from a text, then they should be introduced after, not before, the pupil has had vital contact with the concrete matters covered by the rule. The rule must be a generalization from actual experience in execution, rather than a dogma to be learned and followed. Bain²

¹ It is not meant to imply in this statement that pupils should not be taught qualities of style except as they may need them in their own expression. It will unquestionably be useful often to teach figures, say, "as a matter of knowledge and appreciation, and as a critical basis for the proper use of such figures as spring up spontaneously in the writers' mind" (quotation from comment on MS. by Mr. Roe).

² See his "On Teaching English," p. 23.

seems to lean in the direction of too great formalism in rhetorical teaching; but if he be interpreted in a liberal way, we may quote with approval the following passage: "In Composition, as in Grammar, we need two courses of instruction, running side by side. The first is a systematic course of principles, with appropriate examples; the second, a critical examination of texts, passages, or writings as they occur in some of the good English authors. The two methods support and confirm each other, while either by itself is unsatisfactory. If there are principles of Composition, they ought to be set forth in systematic array and not left to irregular and random presentation. On the other hand, unless we grapple with some continuous text, we can neither find adequate exemplification nor give any assurance of the completeness of our theories."¹

Method of
training
for effi-
ciency in
written
expression.

If in our teaching we would cause the pupil to express himself in reference to the matters of interest to him at the time, and then assist him in making this expression as effective as possible, employing all possible aids thereto, we should accomplish more for him than we commonly do at present. Suppose we have a class of pupils ten years of age describe a circus they have visited. All bring descriptions in writing; we then go over them together and the pupils express their views as to which are most effective. The teacher takes the descriptions and studies them in detail, to see how particular expressions could be made

¹ Cf. Bain's statement with Spencer, *op. cit.*, p. 9.

more effective. He expresses any given notion in a variety of ways, and then asks which of all the forms is most acceptable. If he can have at hand an exceptionally fine treatment of the subject by a master, and present it at the moment when the pupils are vitally interested in the means of expression, this model may become integrated with their ideas and feelings, and exert an influence for good. Under such circumstances it will not seem to the pupil external to his thought and needs, and it will suggest to him a method of vivifying his own expression. We may rest assured that if we can get a pupil to appraise qualities of style aright, he will go far on his own accord in choosing the strongest and best. It is his instinct to do this, — in language as in all other things. If our ideal could be carried out, the pupil would eventually be brought in contact with the most effective modes of dealing with all the common experiences of his daily life.

There is a further condition which determines the general character of an individual's expression, and which is often overlooked. I refer to the operation of what Cooley¹ has called the "looking-glass I." All of the individual's activities are influenced by the way in which he thinks they will be received by those who will be most vitally affected, and whose reactions he is most interested in. He proposes to himself a certain line of conduct, and then considers what his associates will say about him. If he

¹ See his "Human Nature and the Social Order," Chap. V.

thinks his fellows will praise him for his course, he will normally pursue it; if they will criticise him, he will ordinarily abandon it. The principle is as true of linguistic expression as it is of any other mode of action. If figurative expression will accomplish the most for the individual in his special environment, if his friends will reward him best for its use, this will be a powerful stimulus for him to cultivate it. In his imitative stage, when he has all sorts of models before him, the figurative variety will be appraised most highly and chosen above other varieties; and as he grows into the reflective stage he will endeavor deliberately to develop this mode of expression.

The influence of temperament and feeling upon style.

Finally, one's temperament, his particular attitude toward life, his way of looking at things, will have a more or less determining influence upon the characteristics of his expression. Indeed, any one person will adopt somewhat different styles at different times and under different conditions. There are undoubtedly special styles befitting special occasions and special states of mind; this seems commonplace. But the principle cannot be carried too far, not as far as Spencer carries it when he says that "a perfectly endowed man must unconsciously write in all styles." Johnson is pompous, Goldsmith is simple, because the predominant feelings in each case have trained the intellect to represent them. This explains why "one author is abrupt, another rhythmical, another concise." Spencer appreciates, however, that there is such a thing as

fixity of style; Carlyle is Carlylean always, Shakespeare is Shakespearean; and so it goes. He maintains, though, that this fixity of verbal forms is due to lack of complete development in respect to speech, and also in respect to the ability of the intellect to fully utter the emotions. When this complete development is attained, fixity of style will disappear. He would doubtless still maintain, though, that in any one man the emotions are normally of a characteristic type; no single person can now be Shakespearean in his temperament, and now Carlylean, and now Darwinian, and now Tennysonian, and now Spencerian. So, even if style depends directly upon the predominant feelings, we would still have stylistic fixity in individual cases. Holmes could never write the Wordsworthian style, except by imitating it mechanically, because he could never assume the precise intellectual and emotional attitudes of its originator.¹ Still, if he wished to simulate this style, the first requisite would undoubtedly be to endeavor to take the point of view of the poet, and to feel as he did. This suggests that the essential thing in teaching pupils to express

¹ Spencer fails to take due account of this principle, as he expresses his views in the following passage (*op. cit.*, pp. 47-48): "The perfect writer will express himself as Junius, when in the Junius frame of mind; when he feels as Lamb felt, he will use a like familiar speech; and will fall into the ruggedness of Carlyle when in a Carlylean mood. Now he will be rhythmical and now irregular; here his language will be plain and there ornate; sometimes his sentences will be balanced and at other times unsymmetrical; for a while there will be considerable sameness, and then again great variety."

themselves according to any particular style is to get them as fully as possible into the mental states of those who have spontaneously evolved the particular style in question. To write like Addison, one must first see English life and feel about it as the essayist did. Slight progress will be made by imitating his style directly without understanding what frame of mind and what temperament produced it.¹

Summary.

1. Efficiency in composition includes more than readiness and grammatical accuracy. It includes also those qualities which give pleasure to the reader because of their æsthetic value, or which incite him to action when this is demanded.

2. Spencer's theory, that economy of the reader's energy in gaining the ideas of the writer is the essential requisite in good style, is defective. It undervalues the æsthetic function of language, and also the possibility of arousing and directing emotion through linguistic melody, rhythm, and force.

3. Expression often secures reaction without awakening ideas at all. Many slang expressions, for instance, go straight to the mark, short-circuiting all ideational processes.

4. In developing a dynamic style, the pupil must be encouraged to be forceful and effective, rather than merely conventional. Our language is a real, live, growing one, and we can afford to ignore conventional forms at times.

5. By the age of five the child often begins to enrich his speech by calling upon one set of experiences to render more

¹ In this chapter I do not, of course, attempt to discuss writing which has for its object to give pleasure merely. For this reason the treatment of poetry is omitted.

appreciable or enjoyable a new experience which he is describing. This marks the commencement of figurative expression.

6. People differ in their tendencies to employ figurative expression. One person may have his mental furnishings arranged on the principle of contiguity, while another may make use more largely of the principle of similarity, which favors figurative expression. Again, one may have had only matter-of-fact experience with things, while another's experience may have been more largely of a poetic character. Temperament also has an influence upon the use of figures in expression.

7. The formal study of rules of expression, with illustrations drawn from the world's great literature, has not been of much service as it has been conducted in the schools. It has not come close enough to the interests and needs of students.

8. In training for efficiency in composition, pupils must express themselves freely upon subjects of interest to them, and they must have opportunity to say which of a variety of modes of expression are most pleasing and effective. They may then draw upon all literature which will furnish illustrations of effective methods of expressing what they have endeavored to express.

CHAPTER XIII

ACQUISITION OF A FOREIGN TONGUE

1. The Attitude of the Individual toward a Foreign Tongue

The child learns the native tongue because he has need of it.

By a "foreign tongue" is meant any language which the individual attacks after he has already acquired one which he has employed successfully in intercourse with his fellows. Every situation in which the pupil is placed when he begins the study of a foreign tongue and every idea which he can formulate are more or less intimately correlated with linguistic symbols that have effectively served the purposes of adjustment in his daily life. All his experience translates itself readily, speaking generally, into linguistic imagery or execution. But it will be remembered that the infant is entirely lacking in linguistic equipment, and as soon as he begins to adapt himself to people he may be said to feel profound linguistic needs. This puts him into an attitude so that he will seize with avidity upon the language used by the people around him.

But note how different it is with the youth attacking a foreign language in his native country. All his thought and feeling run automatically for the most part into the

linguistic imagery and processes of the mother-tongue, and there is no felt need of a new tongue to meet the requirements of adjustment. The original motive for mastering language cannot be experienced at all, except in the rare instances when a pupil must communicate with persons who cannot employ his own language, as when he moves with his parents to a foreign country. With the classic tongues, especially, the primary function of language — the communication of experience — is lacking entirely; the pupil is not expected to employ them in speaking with or writing to his fellows; and their literatures have been very largely translated into his own language. If he masters them, he must do so for some other purpose than to use them practically. The same is true in some measure of modern languages, so far as the average high-school and university student are concerned; though it would not be true in all respects of the student needing to read a foreign language in the prosecution of his studies. If, however, the latter individual desires only to read the language, but is required to apply himself to writing and speaking it, he cannot experience the motive for so doing that the child does in mastering his native tongue.

But usually
he feels no
need of the
foreign
tongue.

Not only is the individual's attitude toward language on the functional side very different as between the native tongue and foreign language, but it is very different also on the technical side. In learning the mother-tongue he reacts to symbols as wholes largely, and he gets the mean-

ings of words and phrases without giving much if any attention to principles of grammatical construction exhibited therein. But as he goes on, and especially when he enters adolescence, he is very likely to gain some feeling for grammatical principles, particularly if his attention has been called thereto. Originally each word is apprehended without grammatical relations to other words; but with increasing linguistic experience the resemblances in structure of words corresponding with similarity in function must be appreciated to a certain extent. He may not, and probably does not, do this reflectively, but nevertheless his attitude of mind is gradually determined by it. If he has studied English grammar, this attitude is, of course, more pronounced, and makes his general method of attack upon the foreign tongue directly opposed, to some extent, to that of his attack upon the native tongue. The infant might be said to be *word-minded*, while the youth is in a measure *grammar-minded*, in the sense that he is inclined to search out the principles of construction of any foreign language he is studying.¹

There is another matter which makes the teaching of a foreign language as commonly carried on very different

¹ Sweet ("The Practical Study of Languages," New York, 1900) speaks of the "Fallacy of Imitation," p. 5, in learning foreign languages. On the other hand, Gouin exalts imitation to the first place in learning languages. Paul, "Principien der Sprachgeschichte," Halle, 1886, says, p. 89, that we learn living languages more by imitation than by rule. The same view is advanced by Storm, "Englische Philologie," Leipzig, 1892.

from the teaching of the vernacular. When the child enters school he has already employed his native tongue in its auditory and vocal forms most successfully for four or five years, and this gives him a foundation upon which to base his reading. That is to say, visual verbal forms in the native tongue may gain meaning through the auditory and vocal forms. But the case is, of course, altogether different in the teaching of a foreign language in the high school, say, when the teacher starts at once, as he often does, with the language in all its forms,—vocal, auditory, graphic, visual. There being no basis in auditory forms with which the visual may be connected to give it content, the association must be made with terms in the mother-tongue, thus considerably extending the route from word-idea to meaning-idea. Then if the teacher attempts to have the pupil pronounce the foreign words, and listen to them when they are pronounced, and finally to write them, the word-idea itself becomes quite complex without the process of reinstating meaning-ideas becoming at all simplified. The route from symbol to content, or *vice versa*, must continue to be through the native tongue; except in the case where the language is acquired according to the so-called “natural” method, which, however, is not in question at this time. We are here concerned alone with the method of beginning at once with a text-book, and mastering a vocabulary by associating words with their nearest equivalents in the native tongue.

As ordinarily taught, the foreign tongue must be translated into the native tongue.

Different
purposes in
teaching
ancient and
modern
tongues.

Before going further, attention should be called to the different purposes which control the teaching of the ancient as compared with the modern tongues. It is generally claimed that the child learns German or French primarily for the purpose of employing it in acquiring the ideas which are being presented through it; and also for the purpose, not so prominent as the first, of communicating his own ideas to those who can grasp them only when they come through this medium. But these are not the aims in the study of the classical languages. No people in whom we are interested are writing to-day in Latin, or Greek, or Hebrew, or Sanscrit; and while some of the best thought of the world was presented originally in these languages, still that thought is quite limited in its relation to modern life and interests, and the most of it, all that we think has much value for us, has been transferred, with greater or less faithfulness, into modern languages. But the classic languages are models of a certain kind of linguistic construction. It is generally maintained, and it seems with good reason, that they afford a better opportunity for the study of grammar than do any of the modern languages. Being "dead," their forms are unchangeable, which, of course, is not true of any living tongue.¹ So one may take Latin, for example,

¹ We are coming to see that our own language is very much alive, and as a consequence it is incessantly changing. I may quote a few sentences from Brander Matthews on this point: —

"Most of the little manuals," he says, "which pretend to regulate our use of our own language and to declare what is and what is not good

and study it as a mature thing, whose parts and their relations will probably always remain the same, so that they may be analyzed and classified like rocks. Thus the purpose in their study becomes strictly grammatical or philological rather than practical. An engineer studies his locomotive so that he may make it serve him; but the physicist may be, and generally is, interested not in the practical working of the locomotive, but in the mathematical and physical principles it illustrates. The student of ancient language treats his subject in the spirit of the physicist and not of the engineer. And the two attitudes lead to quite different results in teaching. Practical knowledge always involves the establishing of automatic processes in adaptation to concrete situations in daily life; while scientific knowledge requires less facile operations, and gives greater prominence to central processes and systems, and less prominence, or none at all, to execution. In prac-

English, are grotesque in their ignorance; and the best of them are of small value, because they are prepared on the assumption that the English language is dead, like the Latin, and that, like Latin again, its usage is fixed finally. Of course, this assumption is as far as possible from the fact. The English language is alive now, — very much alive. And because it is alive it is in a constant state of growth. It is developing daily according to its needs. It is casting aside words and usages that are no longer satisfactory; it is adding new terms as new things are brought forward; and it is making new usages, as convenience suggests, shortcuts across lots, and to the neglect of the five-barred gates rigidly set up by our ancestors. It is throwing away, as worn out, words which were once very fashionable; and it is giving up grammatical forms which seem to be no longer useful." (*Op. cit.*, p. 221.)

tical learning, ideas have value only for the guidance of reactions, and once the reactions get established, the ideas as conscious elements disappear. But in scientific knowledge ideas as such have supreme and final value, and they must be consciously acquired and so retained.

2. Economy and Efficiency in the Mastery of a Foreign Tongue

The auditory and vocal forms should be gained at the outset.

It has already been noted that in the learning of the mother-tongue the child makes a direct connection between the auditory form and the content designated thereby. Auditory language is thus made just one element in a unified concrete experience, and so it gains the power of directly reinstating this experience in the manner worked out in detail in preceding chapters. Later, when reading is begun, the visual word becomes associated with the auditory word, and in this way principally it acquires meaning. To some extent, possibly, visual word-ideas may be met directly with meaning-ideas, as when the visual symbol *horse* is learned in immediate connection with the object, the auditory word-idea not being given. Now, in the teaching of foreign languages, it is customary to introduce the pupil at the outset to the visual word, which is rendered into its auditory and vocal forms; and then it is translated into its visual equivalent in the native tongue, and this awakens the auditory, and it may be the vocal, equivalents, which in turn reinstate the meaning-idea. It

will not be necessary to dwell long over the proposition that it would promote economy and efficiency if a language, to be used practically in the adjustments of daily life, could be mastered at the outset in its auditory and vocal forms as a medium for the communication of concrete experience. This seems to be the only process by which one can gain the ability to "think" in any language. The common method of teaching a foreign tongue fails to give the learner independence in the language; he must always fall back upon his own tongue. He does not *interpret* foreign language directly; he *translates* it, and then interprets.

This leads to the proposition that the highest efficiency in the use of a language requires that it be mastered at the outset in its oral form ¹ as it is employed in the concrete situations of daily life. Note that it is not to be gained through the native tongue; the teacher is not to take a textbook, pronouncing foreign words and then their native equivalents,—not at all; for if he does he will get the pupil

¹ "The *immediate* aim of the teaching is, then, to enable the learner to understand speech in the foreign idiom, and to use it himself as a direct instrument of thought. The greatest stress is accordingly laid on exercise in speaking. The class must hear and use the new language as much as possible from the first, and the native speech must only be employed in so far as it is absolutely indispensable for the clear comprehension of what is taught." Spencer, "Aims and Practice of Teaching," p. 80. Sweet, *op. cit.*, Chap. VII, advocates beginning a language with its spoken form. Bagster-Collins, "German in Secondary Schools," New York, 1904, maintains, pp. 70-71, that the German reform movement in language teaching attaches great importance to oral work first.

started in the way of *translating* the language instead of interpreting it directly in terms of concrete experience. The foreign words should acquire meaning by connecting them up immediately with the things and phenomena they denote, rather than by working around through the native words, though it is not questioned that something can be accomplished in this latter way.

Gaining a
"reading
knowledge"
only of a
foreign
tongue.

But take the case of a student who wishes only a "reading knowledge" of a foreign tongue. Should he master it first in its auditory and vocal forms? Experience shows, and the theory we have already reviewed would lead us to the same conclusion, that one may read French, or German, say, without being able to speak it or to understand it when spoken. And the psychology of the matter is simple enough. When I, an American, look at a French or German word for the first time, I will give it some sort of "internal" pronunciation on the principles of my native tongue. To illustrate: I see the sentence *Je suis très fatigué*, and I will mentally audize and vocalize the words something as follows: *Gee sū-īs trēs* (the *s* sounded in both cases) *fā tēeg*. Now let a Frenchman pronounce the sentence, and his speech will awaken in my mind no verbal images corresponding to the visual word-ideas of the sentence. I can do nothing whatever with the oral form. If, however, he gave it an Anglicized pronunciation, it would reinstate the visual form; and if this was understood, I could interpret the sentence as pronounced. The point

is that the visual word-ideas of a foreign tongue have often slight kinship in our minds with their auditory forms, and for the most part this kinship must be built up *de novo*.¹

¹ "Is it more difficult to pronounce 'boosh' than 'bowch'? Evidently not. In French, the word written *bouche* (mouth) is pronounced *boosh*, and not *bowch*. If, therefore, you pronounce the French word *bouche* to me before I have seen how this sound is represented in writing; if the sound *boosh* strikes my ears before the letters *bouche* strike my eyes, I should have no reason for finding the French pronunciation at all odd, though I might, perhaps, its spelling. As is seen, the thing is turned the other way round; and if one learns French without being able to read it, as the little child does, there will be no longer much greater difficulty in pronouncing it than in pronouncing words in English. This is perfectly evident.

"How about the spelling?" you will ask. The spelling! You would learn it as the young French children learn it, as you yourselves have learnt the English spelling, ten times more difficult than the French; and this without letting the study of the spelling spoil your already acquired pronunciation. Besides, the spelling is a thing that can be reformed — the pronunciation hardly at all. We must choose between the two evils.

"The modern Greek child of four or five years old, who has hardly yet left his nurse, does he or does he not know how to pronounce this beautiful language better than the most learned of our philologists? Every one will answer yes, and our philologist before the others. We will allow this child to grow up. We will send him to school, and suppose that he is made to begin the study of, say, English. The first thing they will do at the school, as we all know, is to put into his hands either a grammar or a dictionary, or probably both.

"How will our scholar read the first English word that comes before his eyes? He will undoubtedly read it in the way he knows how to read — as if it were Greek; he will pronounce it as if it were Greek; he will accentuate it as if it were Greek. How should he do otherwise? And this false sound, this false accent, issuing from his mouth, ascends to his ears, and is graven, is bitten thereon. And the teacher must be clever

So one might get the visual forms, translating them into English equivalents, and disregard *in toto* the auditory and vocal forms. Of course, there must be some auditory and vocal reaction upon the words as seen, but this will be in terms of the native tongue; and so long as these forms are not to be used in adjustment, it really makes no difference.

It must be understood that we are here speaking only of the individual who will employ the language in but one way, — reading. And in this connection we may ask what place should be given to composition in the training of one who desires but a reading knowledge of the language. According to the psychological theories of some teachers, one who can compose in a language can read it more easily and accurately than one who lacks this ability. But in order to write the language, one must be familiar with all details of construction. He must have thoroughly mastered the grammar of the language, and be able to summon into the focus of consciousness any of its principles at any moment. Usually the pupil, as trained in our high schools, who will efface this first impression. It is, then, the reading which does the harm, and the more the child reads and repeats his word, that is, the more diligently he works, the more the evil is aggravated, until the time may arrive when he becomes absolutely incapable of reform. Our young Greek is then condemned for life to pronounce English badly, whatever effort he may take, whatever discipline he may submit to. Even with our own method it would be extremely difficult, if not impossible, to alter. The fruit has been vitiated at the germ." F. Gouin, "The Art of Teaching and Studying Languages," p. 136.

does not reach the point where he can compose automatically, except in the case of a few oft-used phrases, for he cannot have sufficient experience in composition. Observe a senior in the secondary school writing in any foreign tongue, and you will find his mind filled, not with ideas to be expressed primarily, but with grammatical formulæ. Every sentence is a piece of mosaic work to him, and each word must be cut into a special form, depending upon the space it is to fill. The function of composition in a foreign tongue is really to make the pupil vividly conscious of the mechanism of sentential construction.

But in reading one may be able to use the sentence without being aware of all its mechanical properties. It is a simple fact that one may react to grammatical forms without being able to describe them or place them properly in a grammatical system. Test yourself reading any foreign tongue, where the end is attainment of meaning and not the mechanics of construction, and you will find that the moment you gain a notion of what the thing is about, you begin to ignore details of form and take account only of the more significant elements in the sentence. You will find that your interpretation of particular words is determined more by the general body of ideas already aroused than by the special words themselves. Take these words apart from others and you could not identify them, perhaps; but you have no trouble with them when they appear in a context which is within your comprehension. If you will

study your experience, you will discover that when you read on any familiar topic, you know when you start on a subject therein *about* what any sentence must mean. Now, as you read these sentences you supply out of your own experience one-half, perhaps, of what may seem to you to be the meaning you are getting from your reading. So a person may be able to read readily enough in his own specialty in a foreign language, but be quite incapable in unfamiliar fields, though he uses the same vocabulary in both cases.

Composition may prove a hinderance to reading.

So we reach the conclusion that one may be able to read effectively a foreign tongue without having the ability to compose with any degree of success therein. Indeed, under certain conditions, composition may prove a hinderance to reading¹ by making the individual attentive to verbal minutiae that should be reacted to subconsciously in reading. Reading is a synthetic process, so far as verbal forms are concerned; efficiency requires that larger and larger verbal units be regarded as wholes. But composition is an analytic process, at least in its early stages; and it probably always remains so for the great majority of pupils who try to write a foreign tongue. It tends to

¹ Kern, in the *School Review*, April, 1905, pp. 293-307, while favoring the "direct" method of teaching modern languages, wherein the pupil is made to *use* the language studied, instead of translating it into his own tongue constantly, yet declares that one cannot speak a language fluently without being able to write it fluently. The general principles he develops so effectively argue against his last proposition, and the experience of daily life refutes it.

make one hesitant in dealing with linguistic forms; it gives these forms an unduly prominent place in the attention of the novice at any rate. In the study of the classics this may be an important aim, and if so, much writing should be insisted upon, so that the individual's concern with the language will become scientific rather than practical. But it is a mistake, founded upon an erroneous psychology, to teach Greek and French in the same way, when it is desired to acquire the latter as an instrument, while the former is studied for its grammatical and philological values. Unhappily, the method which has been employed in the classics has been applied without material modification to the teaching of the modern tongues, as the Committee on Modern Languages has pointed out. We can do no better at this point, perhaps, than quote a pertinent paragraph from the Report of this Committee: —

“When the modern languages first became a regular subject for serious study in secondary schools,” it says, “it was natural that teachers, having no other model to imitate, should adopt the time-honored plan followed in the department of Greek and Latin. According to this method, the pupil is first put through a volume of paradigms, rules, exceptions, and examples which he learns by heart. Only when he has thoroughly mastered this book is he allowed to read; and even his reading is usually regarded as a means of illustrating and emphasizing grammatical principles, rather than as a source of inspiration

or of literary education. The amount of foreign literature studied by the class is, moreover, extremely small; but it is all carefully analyzed and translated, every lesson being, in general, repeated several times. Composition is used as an instrument for increasing still more the student's familiarity with inflections and rules. The foreign language is never spoken, and pronunciation is considered unimportant."¹

Formal
grammar
and rhetoric
in the study
of a foreign
tongue.

We may next consider what place formal grammar and rhetoric should occupy in the study of a foreign tongue. It will doubtless be granted, in the light of what has been said already, that when the chief aim in the study of a language is to master the principles of linguistic construction, grammar and rhetoric must be made most prominent throughout. In such a case, technique becomes an end in itself, not simply a means to an end. Every device, then, should be employed to keep the pupil's attention upon verbal forms, the principles of their formation in the expression of typical conceptions, and the syntactical relations of these forms in the sentence. This much will be granted without further argument. But there may be some who will not so readily acquiesce in the proposition that technique must be kept constantly in the background when a language is being studied for the purpose of employing it with the greatest efficiency in gaining and expressing

¹ Report of the Committee on Modern Languages, in Report of the U.S. Commissioner of Education, 1897-1898, p. 1396.

ideas. There are those who maintain that a pupil can never use a language accurately unless he first masters its grammar. It is difficult to understand how such persons could overlook the fact that children understand their mother-tongue very acutely, and speak it very fluently and accurately, and read it with ease and efficiency long before they know a single principle of formal grammar or rhetoric. It is one thing to learn correct and efficient expression through imitation, wherein principles come to be observed without understanding reflectively that they are principles; and it is another thing to learn these principles formally, and then attempt to consciously apply them in linguistic activity. It is with language as with any art; it may be practised effectively before the science upon which it is founded is understood.¹ Why do not the grammarians take some account of the fact that German and French children learn their native tongue on the art side first, and then study its grammar and rhetoric afterwards, not so much for practical as for cultural reasons?

But does this mean that technique should be eliminated

¹ Cf. the following: "Grammar, too, is taught according to its essential nature. Itself but a convenient abstract of the facts of language, it must only be studied with reference to language-material which is already familiar to the learner. In the preliminary stages of language-teaching it thus assumes a very subordinate place, and its function remains a subsidiary one throughout the whole course." Spencer, "Aims and Practice of Teaching," p. 80.

altogether in foreign language study? It may doubtless be dispensed with entirely in the teaching of young children, say before the age of twelve,¹ when they are not at all analytical of linguistic forms and relations, but are merely imitative, readily appropriating whatever is presented to them concretely. They will be hindered rather than helped by giving attention to anything but the *use* of language in vital situations. It is different with older pupils, however, for reasons pointed out in another place. It was said there that in the course of linguistic development the individual becomes more or less grammatical-minded, which means that he is ready and even eager for linguistic principles, and it will prove of advantage to him if he can gain them early *according as he needs them*. It is implied in this statement that the pupil must first have ex-

¹ It may be remarked that a modern language should usually be begun before the age of twelve, for reasons which the Committee on Modern Languages has well stated. "One who wishes to acquire a modern language thoroughly," the Report says, "will always do well to begin in childhood. The later period of youth is distinctly a bad time to begin. In childhood the organs of speech are still in a plastic condition. Good habits are easily formed; bad habits more easily corrected. Forms of expression are readily mastered as simple facts. Later in life, in proportion as the mind grows stronger, it also grows more rigid. The habit of analyzing and reasoning interferes more or less with the natural receptivity of the child. The fixation of speech habits in the mother tongue makes it increasingly difficult to acquire even a moderately good pronunciation, and perfection is usually out of the question." Report of the Committee on Modern Languages, in Report of the U.S. Commissioner of Education, 1897-1898, p. 1047.

perience with the language before he studies its grammar. It will mean little to him, and he will make but indifferent progress in possessing himself of it, until he has by actual contact with the language gained enough of concrete examples to illumine the principles. Then he will welcome them. They will help him to generalizations which he would himself reach in time, but which he can appreciate and use at this juncture in his learning. Let any doubter try this experiment: take two pupils of equal ability, so far as one can tell, and teach them French, say. Let one study the grammar for a year, without employing his principles except to drill in applying them in isolated and merely formal sentences. Then let the second pupil begin, as soon as he has a little vocabulary, to read some interesting story. When he has gone a short distance, let the teacher pick out the half-dozen most prominent grammatical principles illustrated in the reading and have the pupil learn them, using for illustrations the constructions in the passages read. Note which pupil learns the principles most readily and willingly, and which can employ them most effectively. Such an experiment will show, I believe, that a pupil will appropriate a grammatical principle when it will generalize his experiences in his efforts to *use* the language for valuable ends. Thus the pupil's need must always furnish the occasion for and the stimulus to the study of technique;¹

¹ "In the teaching of grammar the most important principle to be kept in view is that the grammar is there for the sake of the language, and not

but on the other hand, this study must keep close to the need, and supply it readily, or waste must result. The so-called "inductive" method is deficient just because it does not bring succor to the pupil soon enough. It attempts to have him discover all principles without aid from the book or the teacher; and while this can be done, of course, still the pupil wastes time in doing it without adequate compensation.

Intensive-
ness *vs.* ex-
tensiveness
in the read-
ing of a for-
eign tongue.

One matter remains to be considered, and this relates to the question of intensiveness *vs.* extensiveness in the early study of a foreign tongue. Should the pupil read little, with very detailed, critical grammatical study, or should he read much, with less critical examination of technique? Many teachers hold that without minute critical study from the beginning, careless habits will be formed, and the pupil's knowledge of the language will always be inaccurate, and so comparatively useless. Further, he cannot grasp the meaning of what is being read without this exact study of forms and syntactical relations.¹ But expe-

the language for the sake of the grammar. The recitation of paradigms, rules, and exceptions is always in danger of degenerating into a facile routine in which there is but little profit. The important thing is not that the learner should acquire facility in telling off paradigms, quoting statements, and explaining principles according to the book, but that he should acquire facility in understanding and using the language." Report of the Committee on Modern Languages, *op. cit.*, p. 1414.

¹ Sweet, *op. cit.*, seems to indorse this view, probably because he is, above everything else, a philologist and phonetician. He appears to be interested primarily in the mastery of a language phonetically.

rience and psychological theory alike maintain that extensive reading of a language will yield better results, since the learner thus encounters forms and constructions in relatively many situations, and in this way he becomes able to properly interpret them. Moreover, following this latter method, the pupil's interests are aroused, as they cannot be by the former method, since by rapid reading he gains more of the content of the language, — he gets into more intimate touch with the life of the people portrayed through what he reads, and accordingly the language itself acquires a meaning for him. Now, the problem involved here can be solved only when we keep in mind the purpose of our language study. If it be to gain knowledge of a philological character, then minute critical study with very little reading has its place; although even here something may be said in favor of extensive reading, on the principle that a phenomenon repeated a dozen times in different connections will establish itself in the individual's thought more clearly and definitely than if it be encountered but once in a single relation and then dwelt upon at length. But the student of modern language who is aiming to acquire a mastery of it for purposes of ready use should certainly put his energy upon extensive rather than intensive study.¹

If it be legitimate — not only this, but eminently de-

¹ Cf. the following: "The first difficulty of practical importance in teaching German grammar relates to the gender and declension of nouns. If the attempt is made to master the gender and declension of every

Literal
translation
of a foreign
tongue.

sirable — that we do not attempt to be too precise and thorough at the outset in the study of a foreign language, then there is a further principle of method which is of much importance. Those teachers who attach supreme importance to technique always insist upon literal translation of everything that is read. According to their philosophy, there is no other way to read a language. But they take a narrow view of the matter. It is manifestly possible for me to get the substance of a paragraph and state it in phrases of my own choosing, though these are not close translations of the original. And this is the sort of experience that will prove of greatest value to me in preparation for the needs of life outside the school. The only reason why I should translate in a routine way at all

noun that is met with, either progress will be very slow (as in case of German children learning the mother-tongue), or the learner's memory soon becomes overtaxed. Trying to remember everything, he soon ceases to remember anything with absolute confidence. The best way to deal with this difficulty is to concentrate attention from the start upon those nouns that belong to the language of every-day life, — the names of familiar objects, relationships, and ideas, — to make sure of these and let the others go. A list of such nouns can be made out which need not contain more than, say, three hundred words. The pupil who at the end of a two years' course has really learned that number of nouns, so that the right gender and the right plural come to him instantly, has done quite enough. More should not be expected by the college examiner, so far as concerns those nouns the gender and declension of which cannot be determined by inspection. It is of course assumed that the candidates will know about nouns in *chen, lein, ei, heit, keit, in, schaft, ung*. Whether he knows any other rules for gender is not very important." Report of Committee on Modern Languages, *op. cit.*, p. 1414.

is that I may show in just what particular I may not have correctly appreciated the original. If no defect or deficiency appears in my statement of the substance of what I have read, it results only in waste for me to go through a passage, giving an account of the grammatical properties of every term. The Committee on Modern Languages¹ has spoken wisely on this point, and I may quote a paragraph:—

“How long and to what extent should the routine translation of good German into tolerable English be insisted on in the class room? The answer is: so long as and whenever the teacher is uncertain whether the meaning of the original is understood. If there is complete certainty that the learner can translate his passage of German into tolerable English, it is, as a rule, not worth while to have him do it; the time can be used to better advantage. An exception may be made, of course, in the case of pupils who are for any reason unusually backward in their English, or for such as may be suspected of not preparing their lessons. But for capable pupils who have a right attitude toward their teacher and their work, there presently comes a time when the routine translation in class of what they have previously prepared ceases to be profitable. They learn no new German in the process, and they do not improve their command of English. For A, B, C, and D, who have prepared their lessons and know perfectly well

¹ *Op. cit.*, p. 1418.

how to translate a given passage, to sit in the class while E actually translates it means a waste of time. When that stage is reached, it is time to drop the systematic translation of the entire lesson in class, to call only for the rendering of words or passages that are liable to be misunderstood, and to use the time thus gained in some exercise more profitable than superfluous translation."

3. Lessons from Europe in the teaching of Language

Practical vs.
philological
values.

European countries, and especially France and Germany, can give American teachers valuable lessons on the effective teaching of foreign languages. These peoples have learned through much vital experience that the elaborate study of grammatical principles, while of scientific value, may yet leave the pupil quite inefficient in the *use* of a language. The pursuit of technical minutiae may yield philological knowledge of worth to the specialist, but the *mastery* of a language is not acquired in this manner. The Europeans have discovered that their welfare depends in considerable measure upon their being able to understand and employ the every-day speech and writing of their neighbors, and this determines their teaching largely. Speaking generally, they keep constantly in mind the practical value of a living language, and the pupil is encouraged to use it almost from the start.¹ He does not first memorize

¹ The modern school of linguistic teachers in Germany do not favor much translation in learning a modern language. See, for instance, Viëtor, "Der Sprachunterricht Muss Umkehren," p. 31, Heilbronn, 1886.

a body of grammatical rules, and then proceed to apply them in a mechanical manner; the rules are acquired for the most part after some familiarity has been gained with the language as a means of expression. Most of the teachers whose work I have observed proceed on the principle that a young pupil must have at least a slight eye, ear, and vocal acquaintance with a language before he can advantageously study its grammar.

One may visit classes in the *Lycée* in France, or the *Gymnasium* in Germany, where he will hear only the English language employed — and good English, too — during an entire recitation. He will find that the teachers use idiomatic English with comparative ease and fluency, and the pupils read and converse in the language without marked difficulty or hesitancy. It seems a mere matter of course in these classes that all are to use, as the medium of communication, the language being studied, and not simply memorize and illustrate rules concerning it, as we so frequently do in America. Having in mind the work in our own country, I have been often much impressed with the facility of these people, teachers and pupils, in the handling of a foreign tongue. They do not go blundering along, striving to remember and apply formulæ they have acquired as a consequence of diligent memorizing. On the contrary, their ears and tongues early become accustomed by actual experience to grasp and employ the language in an automatic way; and this alone can give *mastery*

of any living language. He who interprets or speaks by rule, consciously and deliberately, will get on badly in most linguistic situations in which he may be placed.

Beginning
the study
of language
early.

These Europeans begin the study of modern languages earlier than we do, and this is of immense advantage in the achievement of their principal aim — the acquisition of a language for purposes of ready and effective intercourse. We start languages late, and we do not expect to use them practically, partly because we imagine that formal linguistic study is good for “mental discipline,” and partly because we have a notion that familiarity with the grammar of a foreign tongue is essential to any sort of comprehension of our own language. These aims lead us greatly to exalt technique, and to minimize fluent expression, and ready and effective interpretation through eye and ear. If we should introduce our pupils to French and German in the elementary school, say in the seventh grade, we would be forced to adopt more efficient methods of presentation. We would lead them to a sense of the use of the language as a means of communication; and we would make them acquainted with it more synthetically, so that they would realize what was to be done with it, before we proceeded to treat it anatomically.

The dis-
advantages
of early
grammatical
study.

It must prove more or less disastrous to the effective employment of a living language to devote the time at the outset principally to its grammatical study. This method inevitably handicaps the pupil, since he is made conscious

of details of construction that ought not to be prominently in the attention at all. One taught in this way becomes rule-minded; he acquires the grammatical habit of attack, and this leads to confusion when he is required to speak or interpret rapidly. The grammatical method made unduly prominent at the outset forces the attention on to the elementary units in language; but, in actual use, one should be aware of only leading features. As we have already seen, a good reader in the native tongue, or a foreign tongue either, is never explicitly aware of all the details of every word he reads; far from it. He seizes upon groups of words as units, and ignores a large body of minutiae. But in the case of a pupil with whom technique has been magnified in the beginning, these minutiae fill his vision and hearing, and prevent the ready grasping of the larger unities, which alone have meaning. However, if one has first gained this hold on a language, so that he strikes at what is significant rather than at isolated details, then he may study its technique without losing himself in these details. His early-formed habits will save him from such a catastrophe, as is seen in the case of the child who has learned in the usual way to speak his native tongue, and who later on studies its grammar.

The point will bear repetition, that the Europeans have a strong practical motive for mastering modern languages, and this has compelled them to abandon in many places the formal, mechanical methods of teaching which still

persist so generally with us. The French, Germans, English, and Italians are so closely associated in all their activities, social and commercial, that they keenly feel the need of being able to *use* one another's language. It is not a theoretical matter with them at all. They are not spending much time over the question, so prominent with us, — Can one understand his own tongue without studying the grammar of a foreign tongue? The French need to understand English, for instance, when they hear it; and they must be able to read it, and to speak it on occasion; and they go to work with these ends in view to master it in the most economical way; and the principle applies to other nations and languages. Modern languages are as practical and necessary in Europe as arithmetic or spelling is in our own country, and this makes it easier to teach them rationally. It is not quite clear to our people that the German language, say, is of value anyway; and, considering the results of our system of teaching it, there is certainly reason for doubt regarding its utility. But, of course, we must have some sort of philosophy to indorse our practice, and so we fall back on the abstruse doctrines of "mental discipline," and the vicarious mastery of the native tongue.

In accordance with their general plan of learning a language by employing it as the natives do, the European peoples are adopting a scheme for the interchange of language teachers which promises to be of immense advan-

tage. The plan is this: France, as an example, takes a certain number of graduates of Oxford and Cambridge every year, and places them in the *Lycées* to give instruction in English. England, in turn, takes a certain number of graduates of the Sorbonne and other French universities to give instruction in French in her secondary schools. These instructors remain in their respective positions for two or three years, perhaps, and at a small salary, since they are glad to gain experience in this way. It is thought that all modern languages in the schools of the important European countries will soon be taught by native teachers selected in this manner.

I have spoken of the teaching of modern languages only, but it is probable that the classics are, on the whole, more efficiently taught in Europe than they are in most places with us. At Eton, in England, one may see classes of boys not over twelve years of age listening with evident appreciation and enjoyment to stories read and told them in Latin by the masters. Latin is used there as a real language, and not as a mass of dead material suitable only for mental discipline; though the grammar is thoroughly studied, of course. The masters talk freely, easily, and naturally in Latin, and the pupils often respond in the same way. I think I came nearer at Eton to feeling that Latin could actually be used in the interchange of ideas than I ever did before. How many of the pupils in the classics in our secondary schools ever acquire a sense of the

**Natural-
ness in
teaching
the classic
languages.**

naturalness and vitality of the languages? If you are a Latin teacher, ask yourself whether the language is for your pupils something very remote from everything that they regard as human and desirable. Of course, we need some sort of philosophy again to appease our consciences and an economical public, and so we cry aloud that pupils ought for their soul's health to study subjects far removed from everything of real, vital interest. Happily, though, we are growing away from this contention, at least in some parts of the country, where teachers have caught the new spirit of teaching language, whether ancient or modern. The teachers of the Old World are most skilful in elaborating high-sounding but empty reasons for their archaic way of doing many things in education; but one rarely hears anything of the kind in reference to the teaching of modern languages, concerning which the force of circumstances has compelled them to take a sensible view.

Summary.

1. The child usually has a very different attitude toward learning a foreign tongue from what he has toward learning the mother-tongue; he always feels the need of the latter, while he rarely appreciates that the former will be of service to him.

2. With development, the individual becomes ever more grammar-minded, as it were, so that, if he does not begin the study of a foreign language until late, he tends to learn it by mastering its principles.

3. When one learns a new language visually and grammatically, he is compelled to always translate the language into his own tongue. He cannot "think" in the new language.

4. As taught in our country, ancient language is never designed to be used; it is learned for its grammatical or philological value. But modern languages are taught, ostensibly, so that they may be employed in social intercourse.

5. In the acquisition of a foreign tongue for practical purposes, economy and efficiency demand that it be learned in its auditory and vocal forms first.

6. When it is desired to gain a reading knowledge only of a foreign tongue, it is wasteful to devote time to "composition." Indeed, composition may prove a disadvantage in learning to read.

7. One interested in a language for philological reasons should do intensive work in it; but one who wishes to use the language should make his study extensive rather than intensive. It is a mistake to give constant attention to every minute detail of a language if one wishes to gain ready and practical mastery of it.

8. The Europeans have progressed beyond us in teaching languages effectively. In teaching modern languages they attach principal importance to practical as contrasted with philological values.

9. They begin the study of modern languages earlier than we do, and employ the "natural" method in presentation.

10. They realize that when the grammatical method is made too prominent at the outset, it handicaps the individual by making him unduly conscious of minutiae which he ought to take account of only marginally.

11. Even the classic languages are taught in a natural way in some of the schools in Europe, and in consequence pupils gain a readier and more complete mastery of them than they do in our country.

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